

CAMBRIDGE WORLD ARCHAEOLOGY

THE ARCHAEOLOGY OF THE CAUCASUS

From Earliest Settlements to the Iron Age

ANTONIO SAGONA



VISIT...

LANZAROTE
Caliente.COM

THE ARCHAEOLOGY OF THE CAUCASUS

In *The Archaeology of the Caucasus*, Antonio Sagona provides the first comprehensive survey of a key area in the Eurasian land mass, from the earliest settlement to the end of the early Iron Age. Examining the bewildering array of cultural complexes found in the region, he draws on both Soviet and post-Soviet investigations and synthesises the vast quantity of diverse and often fragmented evidence across the region's frontiers. Written in an engaging manner that balances material culture and theory, the volume focuses on the most significant sites and cultural traditions. Sagona also highlights the accomplishments of the Caucasian communities and situates them within the broader setting of their neighbours in Anatolia, Iran, and Russia. Sprinkled with new data, much of it published here for the first time, *The Archaeology of the Caucasus* contains many new photographs, drawings, and plans, a considerable number of which have not been accessible to Western researchers.

Antonio Sagona, who died shortly after completing this volume in 2017, was an archaeologist of the ancient Near East, with expertise in Anatolia and the Caucasus. He wrote a number of books on the subject, including *Ancient Turkey* (2009). An elected Fellow of the Australian Academy of Humanities and of the Society of Antiquaries of London, Tony was editor of *Ancient Near Eastern Studies*, and taught at the University of Melbourne for more than three decades.

CAMBRIDGE WORLD ARCHAEOLOGY

SERIES EDITOR

NORMAN YOFFEE, *University of Michigan*

EDITORIAL BOARD

SUSAN ALCOCK, *Brown University*

TOM DILLEHAY, *Vanderbilt University*

STEPHEN SHENNAN, *University College, London*

CARLA SINOPOLI, *University of Michigan*

DAVID WENGROW, *University College London*

TIM PAUKETAT, *University of Illinois*

The Cambridge World Archaeology series is addressed to students and professional archaeologists, and to academics in related disciplines. Most volumes present a survey of the archaeology of a region of the world, providing an up-to-date account of research and integrating recent findings with new concerns of interpretation. While the focus is on a specific region, broader cultural trends are discussed and the implications of regional findings for cross-cultural interpretations considered. The authors also bring anthropological and historical expertise to bear on archaeological problems and show how both new data and changing intellectual trends in archaeology shape inferences about the past. More recently, the series has expanded to include thematic volumes.

RECENT BOOKS IN THE SERIES

D. T. POTTS, *The Archaeology of Elam*

ROBIN CONINGHAM AND RUTH YOUNG, *The Archaeology of South Asia*

CLAUDIA SAGONA, *The Archaeology of Malta*

FRANCES F. BERDAN, *Aztec Archaeology and Ethnohistory*

PETER MAGEE, *The Archaeology of Prehistoric Arabia*

KOJI MIZOGUCHI, *The Archaeology of Japan*

MIKE SMITH, *The Archaeology of Australia's Deserts*

A. BERNARD KNAPP, *The Archaeology of Cyprus*

LI LIU AND XINGCAN CHEN, *The Archaeology of China*

STEPHEN D. HOUSTON AND TAKESHI INOMATA, *The Classic Maya*

PHILIP L. KOHL, *The Making of Bronze Age Eurasia*

LAWRENCE BARHAM AND PETER MITCHELL, *The First Africans*

ROBIN DENNELL, *The Palaeolithic Settlement of Asia*

CHRISTOPHER POOL, *Olmec Archaeology and Early Mesoamerica*

SAMUEL M. WILSON, *The Archaeology of the Caribbean*

RICHARD BRADLEY, *The Prehistory of Britain*

LUDMILA KORYAKOVA AND ANDREJ EPIMAKHOV, *The Urals and Western
Siberia in the Bronze and Iron Ages*

DAVID WENGROW, *The Archaeology of Early Egypt*

PAUL RAINBIRD, *The Archaeology of Micronesia*

PETER M. M. G. AKKERMANS AND GLENN M. SCHWARTZ, *The Archaeology of
Syria*

TIMOTHY INSOLL, *The Archaeology of Islam in Sub-Saharan Africa*

THE ARCHAEOLOGY OF THE CAUCASUS

From Earliest Settlements to the Iron Age

ANTONIO SAGONA

University of Melbourne



CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE UNIVERSITY PRESS

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781107016590

DOI: 10.1017/9781139061254

© Antonio Sagona 2018

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2018

Printed in the United Kingdom by TJ International

A catalogue record for this publication is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Names: Sagona, Antonio, author.

Title: The archaeology of the Caucasus: from earliest settlements to the Iron Age / Antonio Sagona, University of Melbourne.

Description: New York, NY: Cambridge University Press, 2018. |

Series: Cambridge world archaeology |

Includes bibliographical references and index.

Identifiers: LCCN 2017011182 | ISBN 9781107016590 (hardback)

Subjects: LCSH: Caucasus – Antiquities. | Excavations (Archaeology) – Caucasus.

Classification: LCC DK509.S23 2017 | DDC 939/.53–dc23

LC record available at <https://lcn.loc.gov/2017011182>

ISBN 978-1-107-01659-0 Hardback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

CONTENTS

<i>List of Figures</i>	page viii
<i>Preface</i>	xiii
<i>Acknowledgements</i>	xvii
Introduction	I
1 The Land and Its Languages	19
2 Trailblazers: The Palaeolithic and Mesolithic Foundations	34
3 Transition to Settled Life: The Neolithic (6000–5000 BC)	84
4 Far-Flung Networks: The Chalcolithic (5000/4800–3500 BC)	132
5 Encounters beyond the Caucasus: The Kura-Araxes Culture and the Early Bronze Age (3500–2400 BC)	213
6 Dolmens for the Dead: The Western Caucasus in the Bronze Age (3250–1250 BC)	281
7 The Emergence of Elites and a New Social Order (2500–1500 BC)	298
8 From Fortresses to Fragmentation: The Southern Caucasus in the Late Bronze Age through the Iron Age I (1500–800 BC)	378
9 Smiths, Warriors, and Womenfolk: The Koban Culture of the Northern Caucasus (1400–600 BC)	423
10 A World Apart: The Colchian Culture	449
11 The Grand Challenges for the Archaeology of the Caucasus	475
<i>References</i>	479
<i>Index</i>	529

FIGURES

1.1	Map showing the modern republic boundaries of the Caucasus	<i>page</i> 21
1.2	Lake Imera pollen spectra	25
1.3	Lake Aligol pollen spectra	26
1.4	Map showing the various language boundaries in the Caucasus	30
2.1	Map showing the key Lower Palaeolithic sites in the Caucasus	36
2.2	Dmanisi (1) computer-assisted reconstruction of the five fossil Homo skulls from Dmanisi; (2) graphic representation of two contrasting hypotheses on the evolution of Homo; (3) stone tools, mainly flakes and flaked pebbles, from Dmanisi	37
2.3	Lower Palaeolithic stone bifaces and flake tools	42
2.4	Map showing the key Middle and Upper Palaeolithic sites in the Caucasus, and the extent of the glaciers	47
2.5	Mousterian stone tools from the northern and southern Caucasus	48
2.6	Mousterian sites of the north-western Caucasus, showing their overall composition of mammal remains, their elevation above mean sea level, and principal stone artefact types	53
2.7	Stone tools from the Middle-Upper Palaeolithic boundary	58
2.8	Characteristic stone tools of the Upper Palaeolithic and Epi-Palaeolithic levels at Dzudzuana Cave	64
2.9	Map showing the broad Mesolithic stone tool traditions	68
2.10	Mesolithic stone tools and objects	69
2.11	A selection of petroglyphs from Gobustan	73
2.12	A selection of petroglyphs from Dagestan and the Syunik region, Armenia	79
3.1	Map showing the main Neolithic sites	87
3.2	Comparative stone tools from Çayönü, Kmlo-2, and Georgia	89
3.3	Comparative Neolithic architecture	97
3.4	Neolithic architectural plans	98
3.5	Göytepe, plan of the architectural remains	100
3.6	Kamiltepe, the mudbrick platform	106
3.7	Neolithic ditches from the southern Caucasus	107
3.8	Neolithic figurines from the southern Caucasus	109
3.9	Neolithic pottery from the southern Caucasus	111

3.10	Neolithic pottery and ground stone tools from the southern Caucasus	113
3.11	Neolithic painted wares from the southern Caucasus	115
3.12	Neolithic flake stone tools from the southern Caucasus	118
3.13	Neolithic flake stone tools and prismatic core from Aratashen	119
3.14	A selection of Neolithic bone tools from the southern Caucasus	121
3.15	A selection of Neolithic bone tools	122
3.16	Map showing the main obsidian sources	127
4.1	Map showing the cultural boundaries of the Maikop, Chaff-Faced Ware, and the Sioni traditions. The dolmen area shows its relationship with Maikop, even though many dolmens were constructed after Maikop	134
4.2	Map showing the key sites of the Maikop, Sioni, and Chaff-Faced traditions	135
4.3	Pre-Maikop phase, Nal'chik, Burial 86 and Meshoko	139
4.4	Galiugai I and its perforated clay hearth hobs; and a cylinder seal from Krasnovardeiskoe	140
4.5	Maikop barrows showing different structural features and graves	156
4.6	Klady Barrow 11, including Grave 25	157
4.7	Klady, various graves from Barrow 11	158
4.8	Klady Barrow 28, Grave 1, showing painted stones	160
4.9	Klady Barrow 39, Tomb 2, showing top and side views	161
4.10	Klady Barrow 30, Tomb 1, showing top and side views	162
4.11	Maikop princely barrow plan and artefacts	163
4.12	Maikop jewellery	165
4.13	Maikop princely barrow artefacts	167
4.14	Maikop princely barrow artefacts	168
4.15	Maikop metalwork: daggers	174
4.16	Maikop metal axes, adzes and chisels	175
4.17	Maikop bronze spearheads	177
4.18	Maikop cauldrons	178
4.19	Main forms of Maikop ceramics	180
4.20	Chaff-Faced Ware from various sites	186
4.21	Chaff-Faced Ware	188
4.22	Berikldeebi radiocarbon readings and 'temple' and Ovçular Tepe Chantier 12	192
4.23	Leilatepe buildings	195
4.24	Select objects from the southern Caucasus Chalcolithic	197
4.25	Select objects from the southern Caucasus Chalcolithic	198
4.26	Soyuq Bulaq, Barrow 1	201
4.27	Soyuq Bulaq, Barrows 3 and 1	202
4.28	A selection of Sioni ceramics and stone tools	205
4.29	Sioni radiocarbon dates	206
5.1	Map showing the full extent of the Kura-Araxes complex	214
5.2	Map showing the main Early Bronze Age sites in the southern Caucasus	217
5.3	Kvatskhelebi, plan and houses	232

5.4	Chobareti, Structure 4 and clay model of a house from Kvatskhelebi Level C	234
5.5	Chobareti radiocarbon dates	240
5.6	Kura-Araxes burial types	245
5.7	Kura-Araxes hearths	251
5.8	Kura-Araxes human figurines	253
5.9	Kura-Araxes early ceramics	255
5.10	Kura-Araxes ceramics, a selection of forms of the northern tradition	258
5.11	Kura-Araxes ceramics, a selection of forms of the central tradition	259
5.12	Kura-Araxes ceramics, a selection of forms of the southern tradition	262
5.13	Sakdrisi plan and tools, and Kura-Araxes bronze tools include axes, awls and daggers	264
6.1	Map showing the distribution of dolmens in the western Caucasus	283
6.2	Zhane dolmen 2	285
6.3	Klady Barrow 11, Tomb 54	286
6.4	Reconstruction of Dzhubga dolmen and incised decoration	287
6.5	Possible sequence of the development of dolmens, and Psynako Dolmen 1	288
6.6	Various dolmen plans	292
6.7	Dolmen material culture	294
7.1	Map showing the key sites of the Middle Bronze Age	300
7.2	Radiocarbon readings from Martkopi, Bedeni, Tetri Tskaro, and Berikldeebi	302
7.3	Late Early Bronze Age – Middle Bronze Age jewellery	307
7.4	Late Early Bronze Age – Middle Bronze Age weapons and tools	308
7.5	Martkopi Barrow 6, Martkopi Barrow 4, Magharo barrow, and Trialeti Barrow 10	310
7.6	Early Trialeti and Martkopi pottery	312
7.7	Ananauri Barrow 3	315
7.8	Bedeni Barrow 5 and assorted artefacts	317
7.9	Bedeni artefacts	319
7.10	Berikldeebi, plan of site showing key cultural levels III–V and their features	321
7.11	Berikldeebi: Bedeni houses	322
7.12	Bedeni pottery	327
7.13	Bedeni pottery	328
7.14	Zhinvali Sanctuary pottery and feature, and pottery from Ananauri Barrow 3	330
7.15	Tsaghvli, Tomb 94, threshing board	332
7.16	Trialeti kurgans and ritual roads	337
7.17	(1) Chachkar Barrow 2 and Atsquri barrow select provisions	341
7.18	Jinisi, Trialeti settlement	343
7.19	Trialeti silver goblet, imagery rolled out; bronze footed cauldron and detail of handle	345

7.20	Karashamb silver goblet, imagery rolled out	346
7.21	Trialeti Barrow 8, gold necklace with agate centrepiece, and Lori Berd objects	350
7.22	Trialeti-Vanadzor pottery from Lori Berd, Armenia	353
7.23	Ceremonial standards (1–3) Brili; (4–7) Faksau	356
7.24	Wagons and carts	360
7.25	Map showing the broad distributions of material culture: (A) the Trialeti-Vanadzor horizon; (B) the Karmirberd (Tazakend), Sevan-Uzerlik and Kizyl Vank horizons	366
7.26	Karmirberd (Tazakend) pottery, Sevan-Uzerlik pottery; Kizyl Vank pottery	368
7.27	North Caucasian culture, schematic plans of tomb types	374
8.1	Map showing the Late Bronze Age–Iron Age I traditions	381
8.2	Fortresses, Abuli, Tsaghkahovit, and Shaori	384
8.3	Artik, Tomb 422, Mitannian cylinder seal, typical catacomb tomb	389
8.4	Aparan II cromlech, Tombs 2, 4, and 5	390
8.5	Tsitelgori Barrow 1 and some of its assemblage	392
8.6	Assorted artefacts	394
8.7	Bronze weapons	396
8.8	Bronze jewellery and ceremonial items	397
8.9	Tli Tomb 76, incised bronze belt	399
8.10	Decorated belt from Tli, detail of bronze belt from Samtavro	400
8.11	Vehicle standards	402
8.12	Development of south Caucasian horse bits	404
8.13	Late Bronze Age ceramics from Armenia	405
8.14	Late Bronze Age ceramics from Armenia and Georgia	406
8.15	Iron Age ceramics from Armenia and Georgia	407
8.16	Iron Age ceramics from Armenia and Georgia	408
8.17	Pottery from Udabno and Tqisbolo Gora	411
8.18	Pottery from Udabno	412
8.19	Gamdlistskaro, bronze plate showing a scene with sheep, humans and a canopied structure	415
9.1	Stone architecture: (1, 2) settlement with symmetric plan, Kabardinka 2; (3) settlement of Pokunsyrt II; (4) linear settlement of Pokunsyrt 10	428
9.2	Koban Tomb 12	433
9.3	Tli artefacts	437
9.4	Koban jewellery	443
10.1	Pichori metallurgical artefacts and wooden ards	455
10.2	Anaklia, Level II, showing the well preserved wooden structures and platforms	457
10.3	Proto Colchian ceramics	462
10.4	Principal types of ancient Colchian drinking beakers 800–600 BC; no. 9 is from Samtavro	464
10.5	Chorokhi metallurgical finds	472

PREFACE

The primary aim of this book is to serve as a conspectus on the ancient Caucasus up to the end of the early Iron Age (ca. 800 BC). In some cases, I have extended beyond this chronological limit to round off the narrative, but whenever possible I have refrained from venturing too far into the second half of the first millennium BC. This study does not set out to be a comprehensive overview of every period, but offers a springboard to those who have had difficulty in accessing the rich heritage of the Caucasus. For those who have made the inevitable discovery that the region has much to add to our understanding of both the ancient Near East and the Eurasian steppes, it may serve as a means to delve further still. The Caucasus has always been viewed as a region of significance by researchers working in its surrounding lands. Yet for a variety of reasons, this rugged area remains bewildering for many researchers – a dizzying array of cultures that form an ill-fitting and patchy mosaic. Consequently, I have focused on what I regard as the most significant sites and cultural traditions, and I have tried to situate the accomplishments of the Caucasian communities within the broader setting of their neighbours in Anatolia, Iran, and Russia. Sprinkled throughout the book are some new data, published here for the first time.

Much of the information contained in this book derives from the staggering number of investigations carried out during the Soviet period, reflected to a certain extent by the voluminous amount of literature that resulted.¹ That flow of information has not abated in recent times, with each year producing a bountiful harvest of publications. During the Cold War, we must remember, Soviet researchers worked under considerable duress. Their academic isolation from their Western counterparts prompted some to refer to the archaeological potential of the Soviet Union in general, and Russia in particular, as the ‘Great

¹ See, for example, the ten volumes (so far) of *Sovetskaia Arkheologicheskaia Literatura: Bibliografiia Ukazatel'*, and Zadnieprovskaiia 2003 on the pre-revolution publications, which divide bibliographical references into regional listings.

Unknown'.² Even now, a quarter of a century after perestroika, most Western researchers still have only a vague understanding of the considerable work carried out by Soviet archaeologists. Language barriers, results published in small print runs not widely held in Western libraries, and vast quantities of material culture (mostly still unpublished in detail) render the information gathered during the Soviet period difficult to access and digest.

Although the upsurge of collaborative projects in recent years has ensured that the antiquity of the Caucasus is no longer a *great* unknown, it nevertheless remains out of reach for many archaeologists. Given this history of research, I thought it best to convey the archaeology of the Caucasus through a double helix. First, I present a synthesis of the complicated material remains, focusing on the main cultural sequences that are divided chronologically. While I have avoided presenting a purely descriptive account (I do not adhere to the notion of positivism), I do believe that close study of empirical evidence is necessary to interpret social behaviour. Then, secondly, I have assigned each chapter themes relevant to the period, which seek to explain aspects of cultural change within a broadly social approach.

Readers who feel a deeper interest in the subject for its own sake, or those who are stimulated by these pages to probe the topic further, will find directional points in the footnotes (a resource for which a knowledge of languages other than English is often demanded for full understanding). The references contain both additional accessible works and also studies often found only in the research libraries of the Caucasus, Moscow, or Saint Petersburg. Even a quick survey of Caucasian archaeology will highlight that the field, especially before the demise of the Iron Curtain, is characterised by studies that focus on regional matters and are self-referential in approach. As much as possible, I have attempted to transcend modern borders and regional academic traditions in the belief that, only then, will a coherent and holistic picture of the ancient Caucasus emerge. Now that the book is written, I am chiefly conscious of its omissions. The limited focus some issues receive was inevitable if the double purposes were to be achieved – producing a single book of not too an alarming size and, at the same time, giving it unity and readability. In many instances, though, the evidence is simply not there. Even so, I hope that both beginners and grizzled researchers will find some value in the words that follow.

This book has taken three decades or four years depending on what you count. My first visit to the Caucasus was by rail, in the early 1980s, when I crossed the former Turco-Soviet border with lashings of temerity that young postgraduate students often have. At the frontier town of Kars, I got on board a train pulled by a vintage Turkish locomotive (a German steam engine, if I recall), which chugged and belched its way to the border. Shortly after, I was 'abandoned' in no-man's land on the bridge overlooking

² Struve 1955: 12; Klejn 2012: 3–12.

the Arpaçay River. Waiting in a train carriage that had been uncoupled from the locomotive was a surreal experience. My wife, Claudia, the only other passenger in the carriage, and I looked expectantly through the foggy windows for several hours, wondering whether we had been forgotten. Then, in the late afternoon, as the winter clouds rolled in, we were attached to a Soviet-built engine and whisked to Leninakan (now Gyumri), and thence to Tbilisi. My first impression of the Caucasus was the inside of that train – sleeping berths with neatly folded moist sheets (it was winter), the sound of clinking glasses and laughter coming from the dining car, and the heady smell of unfiltered cigarettes that mingled with the pungent scent of salted fish. Merriment and camaraderie still mark my experiences in the Caucasus, a region for which I have a deep affection. This book is dedicated to the peoples of the Caucasus.

ACKNOWLEDGEMENTS

I would be lacking courtesy if I did not expressly say what should be obvious to many readers – namely, that this book could not have been written without the assistance of many colleagues, especially my friends who work or live in the Caucasus. They know the archaeology of their lands far better than I ever will. A complete list of those whose help I have drawn upon in one way or another while writing this book would be a long one. To all of them I express my gratitude. Certain names call for special attention.

The Georgian National Museum, Tbilisi, has been my base in the Caucasus for many years, and my colleagues who work there have facilitated my research at every level. I am grateful to David Lordkipanidze, Director of the museum, for his support and encouragement over the years. Mindia Jalabadze and Erekli Koridze, curators at the museum, gave me free access on many occasions to photograph core exhibition material that was held in storage during the museum's recent refurbishment. To Yuri Piotrovskii, I am very much indebted not only for the hospitality he extended to me at a conference held recently at Saint Petersburg (October 2015), but for taking the time from his busy schedule to show a group of participants some of the Maikop holdings in the stores of the museum.

My grateful thanks are due to Claudia Sagona, Abby Robinson, Simon Connor, and Giorgi Bedianashvili, who found the time to read the text in manuscript form, either in whole or in part, and to Giulio Palumbi, Mitchell Rothman, Geoffrey Summers, and Catherine Marro who indulged me in many extended discussions on matters Caucasian. To them I owe a number of corrections, much helpful advice, many additional references, and in several places a salutary change of emphasis, or the necessary qualification of an unduly dogmatic statement. I have also had the advantage throughout of the criticism and advice of Claudia Sagona and Abby Robinson, and the work owes more than I can well express to their clear sense of form and their immediate unfavourable reaction to obscurity or clumsiness of expression.

The illustrations have been planned as an integral part of the book, and Claudia is also to be credited for the formatting of the figures, and the re-drawing or adaptation of many published early illustrations. In some cases, the illustrations are her creations. To further emphasise the visual aspects, I took many of the photographs myself and I also drew a number of objects first hand.

I would also like to acknowledge the assistance provided by Giorgi Bedianashvili and Tina Kobakhidze, former librarians at the Otar Lordkipanidze Centre for Archaeological Studies, Tbilisi, in tracking down studies in relatively obscure publications that seldom reach Western libraries. In this regard, too, the Inter-Library Loan staff at the University of Melbourne library played an invaluable role in locating other publications and filling in many gaps. To Richard Serle, in Collection Management, at the University of Melbourne Library, I am especially thankful for the speed with which he was able to acquire for our library many publications, both hot off the press and long since out of print. Chandra Jayasuriya created the maps in this book. I am deeply grateful for her exactitude and patience.

The following colleagues (and many more), listed in alphabetical order, have provided me with information and assistance, or allowed me to reproduce the photographs from their publications, projects, or institutions. To them I express my sincere gratitude:

Mikheil Abramishvili, Tufan Akhundov, Karim Alizadeh, Shahmardan Amirov, Gregory Areshian, Makoto Arimura, Nourida Ateshi, Pavel Avetisyan, Ruben Badalyan, Veli Bakhshalyiev, Katrin Bastert-Lamprichs, Giorgi Bedianashvili, Arsen Bobokhyan, Christine Chataigner, Simon Connor, Hamid Fahimi, Irina Gambashidze, Boris Gasparyan, Nikoloz Gobejishvili, Rafi Greenberg, Ferhad Guliyev, Svend Hansen, Barbara Helwing, Mia Hutson, Mark Iserlis, Mehmet Işıklı, Mindia Jalabadze, Leri Jibladze, Christian Jeunesse, Kakha Kakhiani, Marine Kapanadze, Giorgi Kavtaradze, Sergi Korenevskii, Stephan Kroll, Catherine Kuzucuoğlu, Eliso Kvavadze, Ian Lindsay, Catherine Longford, Christine Lorre, Bertille Lyonnet, Zurab Makharadze, Catherine Marro, Amihai Mazar, Medea Menabde, Tengiz Meshveliani, Guram Mirtskhulava, Rauf Munchaev, Necef Museibli, Goderdzi Narimanishvili, Lela Nederidze, Yoshi Nishiaki, Cliff Ogelby, Marcel Otte, Giulio Palumbi, Rezo Papuaishvili, Sarit Paz, Yuri Piotrovskii, Modwene Poulmarc'h, Marina Puturizde, Sabine Reinhold, Alexei Rezepkin, Mitchell Rothman, Elena Rova, Karen Robinson, Hakob Simonyan, Adam Smith, Thomas Stöllner, Viktor Trifonov, Niko Tushabramishvili, and Toby Wilkinson.

In recent years, I have had the privilege to be the field director of a wonderful collaborative project, the Georgian-Australian Investigations in Archaeology (GAIA). To all the team members I express my sincere gratitude for their

professionalism and camaraderie, and for their willingness to share their knowledge. To my many students, undergraduate and graduate, I am thankful for their countless questions, which have made me probe deeper into the complexities of the ancient Caucasus that I thought I knew so well. My 'grey cells' have not had a chance to rest thanks to their inquiring minds. I also wish to express my gratitude to the anonymous readers of the manuscript, whose very useful suggestions have made this a better book. It does not of course follow that all the people who have helped me would agree with all that remains, and the errors, which I fear may be many in a book of this scope, are all mine. It is a pleasure to record my appreciation to Norman Yoffee for encouraging me to write this volume for the Cambridge World Archaeology series. When he broached the idea I seized the opportunity with relish, and now I only hope that I have managed to pull it off. Finally, to Cambridge University Press and its dedicated staff, Beatrice Rehl and Katherine Tengco Barbaro, and to Vincent Rajan and Andrea Wright, who provided editorial assistance, I express my thanks for their guidance, understanding, and patience.

INTRODUCTION

The modern Caucasus often conjures up images of a highly turbulent region, harbouring a kaleidoscope of peoples who speak different languages and profess different religions. In spite of this restive reputation, it is not hard to appreciate why the Caucasus has so vividly captured the imagination of travellers and writers. Often perceived as a boundary between worlds, its landscape is immediately arresting. On a clear day in the southern Caucasus, standing on a vantage point along the middle Kura Basin, the immense horizon becomes an irresistible attraction. There, dim in the remote distance, towering high above the foothills is the mighty range of the Greater Caucasus Mountains. Their lower slopes are usually veiled in cloudy vapours, while their snow-clad peaks glitter in the sunlight, suspended between earth and sky. Over the ridge is another world, one of mighty river valleys and foothills that merge imperceptibly with the vast European steppe lands beyond.

No less alluring is the landscape in southernmost Caucasia, in Armenia, for instance, where the cones of volcanoes, extinct since at least the Quaternary period, sharply punctuate the lava plateau that extends into modern Turkey. Two peaks loom large – Mount Aragats (4,090 m) and Mount Ararat, the latter rising as twin pinnacles (5,137 m and 3,914 m) north of Doğubayazıt. The solemn mass of Ararat left the thirteenth century Venetian Marco Polo awe-struck.

An exceedingly large and high mountain. ... The circuit of its base cannot be compassed in less than two days. The ascent is impracticable on account of the snow towards the summit, which never melts, but goes on increasing by each successive fall. In the lower region, however, near the plain, the melting of the snow fertilizes the ground, and occasions such an abundant vegetation, that all the cattle which collect there in summer from the neighbouring country, meet with a never-failing supply. (Marco Polo 1908: 35–6)

This dramatic compression of elements has fuelled the sense of mystery. Early on, the Greeks considered the western Caucasus, Colchis, the edge of the known world, where myth and reality blurred.¹ Sir John Mandeville tells us, in a fantastical account of travels that he ostensibly wrote in the fourteenth century, how somewhere amongst the mountains of Georgia there is a country:

... that is quite covered by darkness, so that people outside it cannot see anything in it; and no one dares go in for fear of the darkness. Nevertheless men who live in the country round about say that they can sometimes hear the voice of men, and horses neighing, and cocks crowing, and know thereby that some kind of folk live there, but they do not know what kind of folk they are. (Mandeville 2005: 163)

The tessellated landscape of the Caucasus, a vast tangle of mountains and etched valleys, wetlands and steppes, satisfies almost any definition of a frontier. Squeezed by the Black and Caspian seas, in an area about the same size as Italy, it effectively separates Eastern Europe from Western Asia. As such, the Caucasus is distant and isolated from the heartland of both cultural regions, and therefore marginal to each. At the same time, this geographically complex isthmus stands as a meeting place where two worlds collide. Its size is modest compared to its immediate neighbours. Nevertheless, the cultural accomplishments of the Caucasus are many. Whether we focus on its creative and dazzling metalwork or look at its ability to blend traditions, the result is a complex region with a variegated and fascinating set of achievements.

Mountains dominate the physical landscape of the Caucasus, and the most formidable are the lofty summits of the greater chain. Comprising about 1,200 km of volcanic uplift, they stretch obliquely from the Taman (or Anapa) Peninsula in the north-west to the Apsheron Peninsula that juts out conspicuously into the Caspian Sea. Although these mountains can be crossed through passes that were originally narrow and tortuous, in prehistory they sometimes acted as a deterrent or even a terminus for human movements – filtering ideas and possibly small scale migrations, but precluding a constant flow of populations.² This was certainly the case during much of the Palaeolithic, when the glaciated passes prevented even the adventurous from crossing the peaks. Even so, emerging evidence from DNA studies, discussed in Chapter 1, has yielded surprising results. It seems that the genetic relationship between population groups in the northern and southern Caucasus is much closer than was once suspected, which forces us to re-think the relationship between language and material culture. In an engaging and extensive study that examines

¹ For historical and cultural surveys of the Caucasus from the Classical period onwards see Braund 1994; Alemany 2000; Hewson 2001; Rapp 2014.

² The Georgian Military Road, though still narrow, was widened to its present form by the Russian military in the late eighteenth century, after the Georgians freed themselves from Persian suzerainty.

the interconnectivity of distant regions through the flow of materials, Toby Wilkinson reminds us that routes are dynamic corridors rather than static pathways.³ Not only were routes conduits for raw materials and finished products, they also conveyed knowledge and people.

Not all boundaries of the Caucasus are natural borders in the geographical sense. The Kuma–Manych Depression in the northern foothills, for instance, merges almost imperceptibly with the Russian Plain further north. In the south, the Araxes River, located in and alongside the countries of Turkey, Armenia, Azerbaijan, and Iran, likewise shows no clear differences in the landscape on either side of its banks. So this notion of the Caucasus both as a geographical corridor and barrier, a duality that contributed to its unique set of historical circumstances, is one that we shall explore throughout this book.

Although this study goes no further than about 800 BC, stopping short of the arrival of the Greeks in Colchis, it is worth noting the considerable importance mountains, rivers, and other natural features assume in narratives of literate societies. In Christian and Islamic historiography, for instance, these physical topographies were viewed not only as barriers, but as places imbued with symbolism, whose meaning differed depending on perspectives. Thus, to the Christian storytellers, mountains were portrayed as sanctuaries for the defenders of the land, whereas the Arabic narrators viewed them as obstacles in the course of their early conquests. Likewise, rivers were perceived either as boundaries defended by heroes, or bridges to be crossed by the invaders.⁴ These conceptions of landscape are useful to keep in mind even for the prehistoric periods, for they entwine the physical reality of geography with notions of social and political thought.

The Caucasus is also a cultural frontier.⁵ Pliny the Elder reminds us that at Dioscurias in ancient Colchis, ‘business was carried on there by Roman traders with the help of a staff of 130 interpreters’ (Plin. *HN* IV.v.107–108). Within the northern foothills that slope down to meet the fringe of the vast steppes of southern Russia, we find a mixture of distinct populations, rich in customs and languages. No less complicated are the historical circumstances and composition south of the range, where a medley of peoples had a cultural orbit that revolved more around the lands to the south, such as Anatolia and Iran, than it did with the European steppes. This sense of frontier that the Caucasus

³ Wilkinson 2014a.

⁴ The spatial geography in the medieval period is dealt with admirably in Robinson 2014.

⁵ The terms ‘the Trans-Caucasus’ (across the Caucasus Mountains) and ‘the Cis-Caucasus’ (on the near side of the Caucasus Mountains) refers to a Soviet and Russian geographical perspective. These are now rather anachronistic terms and in this book I have used ‘the southern Caucasus’ and ‘the northern Caucasus’ respectively. Where they are part of archaeological discourse and terminology such as ‘Early Trans-Caucasian culture’, I have left the term unchanged. In this book the term ‘Caucasian’ refers to the inhabitants or traditions of Caucasia, and not to any modern notions of race.

acquired still resonates today. Liminal in character – it is a zone that has its own distinctive structures and cultural landscape, often quite dislocated from hierarchies and traditions that surround it – at the same time it displays a strong connectivity.

A BRIEF HISTORY OF ARCHAEOLOGICAL RESEARCH IN THE CAUCASUS

In the Caucasus, ethnic, religious, territorial, and political issues are still hotly contested, and in unravelling the approaches to its ancient past, one must tread carefully. Specific and complex socio-political and economic conditions that have shaped this intriguing frontier must be taken into account. In the twentieth century, the Caucasus witnessed the last gasp of Russian imperial expansion, then some seventy more years of Soviet domination, before movements of national liberation created newly independent countries.

Archaeological research mirrors this complicated trajectory and reveals how tsars, revolutionaries, and globalisation have moulded the study of the past of this turbulent region. In studying Caucasian archaeology we need to consider two matters together: conceptual thought (theory) and practical methods (field techniques and strategies). In both cases, the discipline in the Caucasus witnessed radical changes after the fall of the Iron Curtain. It could be argued, in fact, that the dramatic, fundamental, and rapid shifts in approaches Caucasian and Russian archaeologists have had to shoulder since the 1990s find no counterparts in the history of Western archaeology (perhaps the closest rift came with the radiocarbon revolution).

Russian Imperial Archaeology (pre-1917)

While travellers of the nineteenth century were drawn to Egypt and Mesopotamia in the hope of observing the remains of legendary ancient civilisations, they came to the Caucasus for a different reason. This intrepid cohort of Europeans, a combination of the curious and the pious, were attracted to the mystique that borderlands hold. In the 1800s, the Caucasus lay at the edge of empires between the Russian Tsars and Ottoman Sultans. As such, it also attracted the military and spies. James Stanislaus Bell, an emissary of the British Intelligence Office was one such character. Bell pursued his interest in antiquarianism in the northern Caucasus between 1836 and 1839 while supplying arms to the highlanders and instructing them in the skills of guerrilla warfare.⁶

Russian Imperial archaeology started as an antiquarian pursuit singularly intended to find beautiful objects for museums. This was an age of spectacular

⁶ Bell 1840.

discoveries made by intensely keen enthusiasts with little resort to refined digging. In Western Europe comparable scholarly and philosophical inquiries led to the establishment of amateur societies and collections of antiquities. Tsar Peter I (reigned 1689–1725), a fervent collector, ignited interest in antiquities in the early 1700s when he requested that old and curious objects from across Russia be gathered together. Although Peter the Great's interest extended across all manner of objects, from ethnographic items to marble sculptures, awareness of Russia's ancient past grew rapidly. The earliest archaeological excavations were undertaken in the second half of the eighteenth century in the Crimea and neighbouring regions along the northern Black Sea coast, where ancient Greek cities and Scythian barrows were targeted. Rich objects and exotica began to fill the state coffers early on, but archaeology was not organised at a state level until the nineteenth century, when learned societies were established to preserve and study the remains of the ancient past.

Amongst the most important in Russia were the Moscow Society of History and Antiquities (est. 1804), the Imperial Archaeological Society (est. 1851), and the Moscow Archaeological Society (est. 1864). Countess Praskovya Sergeyevna Uvarova (1840–1923), well known for her early work along the southern Black Sea coast, became head of the Moscow Archaeological Society, but emigrated together with other White Russians shortly after the revolution. The most powerful institution, however, was the Imperial Archaeological Commission (est. 1859), with a mandate to manage professional investigations in Russia and issue licenses to excavate sites.⁷ Professional dissemination of fieldwork results first occurred through publication in the *Archaeological Commission Reports*, printed by the Tbilisi chapter of this Commission, which was established in the 1880s.

A significant turning point in the archaeology of the region was the establishment of the Caucasus Archaeological Committee in 1871. In that same year, Austrian researcher Friedrich Bayern began investigations at Samtavro, near Mtskheta, as did Alexander D. Yeritsov at the cemetery site at Akner, in Armenia; eight years later (1879), Bayern moved to Armenia and investigated Redkin-Lager.⁸ Azerbaijan also attracted pioneer explorers, such as Valdomar Belk, a German, who drew attention to the antiquity of the mountainous region of Gedabej.⁹ A welter of activities ensued, especially after the Imperial Archaeological Commission held the 'Fifth Archaeological Congress (the Caucasus)' organised by the Society of Amateurs of Caucasian Archaeology, which opened on 8 September 1881. Some 850 participants attended, including

⁷ For a history of the early antiquarian societies, see Veselovskii 1900a, and Mikhaelis 1913 for an early synthesis of discoveries. See also Klejn 2001, 2012.

⁸ Smith 2005: 238; Lindsay and Smith 2006; Avetisyan and Bobokhyan 2012.

⁹ I would like to thank Ferhad Guliyev for providing me with information on the history of archaeological research in Azerbaijan.

the leading European scholars of the day, to discuss matters pertaining to history, archaeology, ethnography, folklore, and languages.¹⁰ Given twentieth-century notions on ethnogenesis that will be addressed later in this chapter, it is perhaps significant that Rudolf Virchow figured prominently in this Congress. Virchow, a conservative biological anthropologist and anti-Darwinist, maintained that cultures were self-contained units, each with a distinctive heritage and generally incapable of acculturation or interconnectivity with their neighbours.¹¹ One of the concerns of Virchow's research was the desire to identify ethnic identities, a concept that re-surfaced during the Stalinist regime.

Chronology also became a serious concern in the 1880s. This was most clearly expressed in the studies of Jacques de Morgan, who in addition to excavating 576 tombs around Alaverdi and Akhatala, in the Debed River valley of the Lori province of Armenia, compared the material remains from the southern Caucasus with those in the greater Near East and Aegean.¹² His belief that the Caucasus was of special importance for the study of metals was prescient, and his interest in eastern civilisations led him to Persia, where he managed to negotiate a French monopoly of archaeological exploration in Persia. Although he is mostly known for the time he spent at Susa, in south-western Persia, he also excavated a number of the Late Bronze and Iron Age cemeteries in Talish region, and explored the adjacent territories of Gilan and Mazandaran, which hug the southern Caspian Sea shores.¹³ These places are particularly important for their cultural connections with sites in south-eastern Azerbaijan in the Caucasus.

As private collections became fashionable, grand museums like the Hermitage were also established to house an emerging body of antiquities, which then became the subject of discussion in archaeological periodicals and congresses. In the Caucasus, the Russian Imperial Geographic Society established a museum for its Caucasian Department in 1852. It was re-named the Caucasian Museum in 1865 and, after the revolution, the Museum of Georgia (1919). Since 1947, it has been the Simon Janashia Museum of Georgia, Tbilisi. Despite these many field and organisational activities, late-nineteenth-century Russia saw no major advances in conceptual or analytical paradigms comparable to those in Western Europe.¹⁴ Russian antiquarians did, however, keep abreast of the trends and some embraced the ideas of late evolutionism and early diffusionism.

¹⁰ Gamkrelidze 2004: 214.

¹¹ Boak 1921.

¹² De Morgan 1889. On De Morgan's expeditions, see Djindjian et al. 2015.

¹³ De Morgan 1896, 1897.

¹⁴ Klejn 2001: 1127–32; 2012: 15. For regional surveys of archaeological work, see Kafadarian 1948, Khachatrian 1978, Lindsay and Smith 2006, Avetisyan and Bobokhyan 2012 (Armenia); Gamkrelidze 2004, 2008.

In the northern Caucasus the richness of the Koban region soon attracted attention.¹⁵ Although some explorers, Russian and West European alike, did have a genuine interest in the ancient cultures of the Caucasus, a vast number of tombs of the Koban region were plundered by predatory digging in the nineteenth century by those of antiquarian leanings whose acquisitive enthusiasm for metalwork far outweighed any vestiges of scientific interest they may have possessed. Without any criteria for dating the finds, these crude early investigations stood little chance of resolving the cultural problems. Giorgi Filimonoff, curator of the Moscow Museum, conducted some of the first investigations in the northern Caucasus. In 1877, he initiated excavations at the Koban cemetery, which were continued in later years by Volodimir Antonovich, Rudolf Virchow, and Praskovia and Aleksei Uvarov. To this cohort should be added V. I. Dolbezhev, a local school-teacher and earnest antiquarian, whose sizeable collection is now held in the State Historical Museum, Moscow. But it was Ernest Chantre, then deputy director of Lyon Museum, who carried out the first sustained expedition to Koban.¹⁶ Chantre also gathered together items dug up by the landowner, hence expanding the French museum holdings of Koban objects to 1,150 items. In his substantial study of Caucasian antiquity, he attempted to bring order to the material from Koban, Samtavro, Redkin-Lager, and Stephan-Tsminda, drawing parallels with central European Hallstatt culture.¹⁷ To stop the tide of antiquities leaving the country, the Russian government enacted a law at the end of the nineteenth century preventing foreign archaeologists from carrying out fieldwork in its territory. Amongst those whose ambitions were thwarted was Baron Joseph de Baye, a French archaeologist and a lover of all things Caucasian.¹⁸

Soviet Archaeology (1917–1991)

MARXIST–LENINIST IDEOLOGY

More than anyone else, Leo Klejn's vivid and penetrating studies on Soviet archaeological thought have demystified the subject of Soviet archaeology for Western researchers. He refers to the Soviet concepts not as monolithic, but as comprising 'stages of a long journey', which were neither smooth nor straight.¹⁹ Little changed in archaeological thinking in the first decade after the revolution in 1917, though this interlude saw a dramatic slump in fieldwork

¹⁵ Tekhov 1957: 7–15; Kozenkova 1996: 7–11.

¹⁶ Chantre 1886.

¹⁷ For a discussion, see Bedianashvili and Bodet 2010: 279.

¹⁸ Cheishvili 2013.

¹⁹ Klejn 2012: 13. The summary that follows draws heavily on Klejn's studies. See also, Klejn 1977; Bulkin et al. 1982; Klejn 2001. For a history of archaeological discoveries and intellectual traditions in the southern Caucasus, especially Armenia, readers are directed to Smith (2005: 234–51) and Lindsay and Smith (2006). See also Gamkrelidze 2004 for early work in Georgia, and Kohl 2007 for short biographical sketches of key researchers.

and research. Tsarist organisations such as the Archaeological Commission and the Moscow Archaeological Society, seen as the playground of the wealthy, could do little in arresting this malaise. The new political rulers had more pressing issues to deal with, such as institutional change, and they devoted little attention to the restructure of archaeological methodology and thinking. But change did come to archaeology, and it was radical.

Bristling with enthusiasm and missionary zeal, a new generation of Muscovite ideologues, headed by V. M. Friche, a literary critic and art historian, and academician Mikhail Nikolayevich Pokrovsky, a historian, set about placing archaeology squarely within Marxist social history. Their task was to show how analysis of material culture could promote the fundamental Marxist-Leninist concept of a classless society and to defend the enterprise against the ‘bourgeois’ approach of Western researchers. Using Lewis H. Morgan’s model of social evolution as the framework, they defined terms such as ‘early communism’, ‘feudalism’, and ‘the rise of the state’, which became embedded in archaeological literature throughout the Soviet period.²⁰ This new social approach to material culture generally focused on specific cultural categories – tools, settlements, burials, and so on – but it was fundamentally opposed to the ‘palaeoethnological school’ promoted by Boris Sergeyevich Zhukov (also a Muscovite and born into a family of newspaper publishers), which viewed human culture as a product of the natural environment. Zhukov’s approach emphasised the ecology of past societies, their variability, and their spatial distribution.²¹ Ultimately, the deliberations of this new generation of thinkers, who had a minimal understanding of archaeology and only a basic grasp of Marxism, completely changed the trajectory of archaeology in the Soviet Union.

Out of this ferment emerged, in 1919, the Russian Academy of the History of Material Culture (RAIMK), replacing the earlier Archaeological Commission, and renamed in 1926 the Academy for the History of Material Culture (GAIMK). This powerful institution, consisting of departments of ethnology, archaeology, art, and history, was based in Leningrad and was headed by Nikolai Marr, one of the few figures who straddled the Tsarist-Revolutionary divide quite successfully.²² Prior to the revolution he investigated Ani (1892–1893, 1904–1917), the medieval Armenian capital, and then rose to prominence in early Soviet archaeology. His early work is little known outside the circle of Armenian expertise, where he is recognised for his inter-disciplinary approach

²⁰ Klejn 2012: 19–20. Morgan was a contemporary of Karl Marx and Friedrich Engels, and much respected by both (and others) for his views on social structure and material culture and the impact of technology on cultural development.

²¹ According to Klejn (2012 *passim*), many of the ideas of Zhukov and his followers foreshadowed the later American processual school.

²² Archaeological institutes around the Soviet Union fell into line with regard to titles. For instance, just two years after the Armenian Institute of Science and Art was established in 1924, it was re-packaged as the Institute of the Material Culture of Armenia. Avetisyan and Bobokhyan 2012: 9.

to fieldwork and for mentoring a younger generation of scholars.²³ A linguist by training, Marr became known as the founder of ‘the theory of stages’ or ‘Japhetic theory’, which explained socio-cultural changes as fundamental economic transformations.²⁴ He rejected notions of migrations, cultural adaption, and diffusionism because they were seen as pandering to Western European humanism and not serving Marxist political ideology.²⁵

At the core of Marr’s philosophy was the importance of economic change and its capacity to explain cultural transformations in terms of different stages of economic development. Agriculture, animal husbandry, and technology were given prominence in this context, but the notions of migration and cultural interaction were sidelined.²⁶ Although external cultural influences and population movements were not denied, they were viewed as products of social circumstances rather than the drivers of historical change. Hence, similar general laws of cultural development were applied to ancient complexes discovered across the Soviet Union from the Caucasus to Siberia. Although this school of thought created a simplistic interpretative model, it did nonetheless focus attention for the first time on indigenous developmental change and the role of technology in ancient societies.

By 1930, the fulcrum of debate shifted to Leningrad, where new idealists were driven to re-fashion the discipline into an even tighter framework. These first attempts to find social value in the remains of the past saw a sharp reaction against earlier empiricism. Typological studies, it was said in these formative post-revolutionary years, turned artefacts into fetishes. Antiquities were seen as meaningless bric-a-brac collected by the affluent that had no bearing on contemporary needs and issues, on the here and now. Antiquities needed to elucidate issues of historical economics and production, rather than be seen as artistic achievements from a remote past. To that end, even the term archaeology was avoided in preference to ‘the history of material culture’. Marxism stressed the determinative role of productive economies and, accordingly, material remains were seen as tangible manifestations of the labour of human societies. Essentially and emphatically, archaeology in the Soviet Union was conceptualised as a part of historical science, and its theoretical framework embraced historical materialism.

These tumultuous times had a tremendous impact on developments in the southern Caucasus, where Azerbaijan was the first territory to be incorporated into the Soviet Union in April 1920, followed very soon by the annexation of

²³ Avetisyan and Bobokhyan 2012: 9.

²⁴ The term ‘Japhetic’, derived from Japheth, the name of one of the sons of Noah, was applied to the Kartvelian (Georgian) languages. It was Marr’s belief that ‘Japhetic languages’ were sub-stratum languages, which pre-dated Indo-European languages. See Matthews and Marr 1948.

²⁵ Bulkin et al. 1982.

²⁶ See, for example, Piotrovskii 1949, who emphasises farming practices at the beginning of the Caucasian Copper Age.

Armenia (December 1920) and Georgia (February 1921). Under the umbrella of the Peoples Kommissariat of Education emerged new Commissions responsible for the protection of antiquities. Other institutions that were founded included the Yerevan State Museum (est. 1919) and the Azerbaijan State Museum of History (est. 1920). Archaeology was soon linked to institutions of higher learning. Ashkharbek Kalantar, an Armenian intellectual and one of Marr's students, was amongst the founders of Yerevan State University (est. 1919). He published a handbook of archaeology and later headed the first department of archaeology in 1930.²⁷

INTELLECTUAL CLIMATE UNDER STALIN

The early years of Stalin's tyrannical rule, in the late 1920s and early 1930s, were extraordinarily repressive. By 1929–1930 Stalin initiated his plans for a highly centralised economy, whereby he sought to collectivise the peasantry, phasing out Lenin's New Economic Policy, and launch the Soviet Union as an industrial nation. Klejn's description of the standard of archaeological debate is nothing if not graphic:

In accordance with the style of the era, scientific debate took on the nature of ferocious political argument and the status of class struggle. The tone became shrill, and did not stop at rudeness and personal attacks. Researchers denounced one another heatedly and implacably; footling theoretical differences were elevated to the scale of fundamental political disagreements; scientific opinions became subsumed into class positions, given scathing labels in the language of the Party, and viciously chastised.²⁸

In these years of hardship, those archaeologists who did not engage in political debate prudently turned their attention to 'facts'. They sought to explain material culture (sources) in terms of history and were careful not to stray into the negativity that surrounded theory. A period of historical materialism ensued. New methods were developed that were used to infer social relations from material culture. Out of this milieu emerged what is arguably the greatest legacy of Soviet archaeology, namely the introduction of lithic-microwear and taphonomic analysis, approaches spearheaded by the work of Sergei Semenov on Palaeolithic tools.²⁹ Throughout these years, there was a voracious appetite for archaeological data and knowledge – expeditions proliferated, as did publications, including the foundation of *Sovetskaia Arkheologiia*, which became the flagship archaeological journal of the USSR.

Tragically, Stalin's rise to power also saw many intellectuals perish or be expatriated. Amongst the archaeologists from the Caucasus exiled to Siberia were the Armenians A. Kalantar, S. Barkhudaryan, and Evgenii Baiburtian. Of these Baiburtian, a prehistorian with an eye for excavation techniques, was active in the

²⁷ Avetisyan and Bobokhyan 2012: 19.

²⁸ Klejn 2012: 25.

²⁹ Klejn 2012: 307–10.

environs of Yerevan where he excavated the mound sites of Mukhannat Tappa (1935–1936) and Shengavit (1936–1938). The latter, in particular, boded well for providing a stratified sequence of the Kura–Araxes culture, but Baiburtian’s thoughts were never published, owing to his untimely death.³⁰

Although this period witnessed a sad loss of talent, the vagaries of the time also saw the Caucasus gain one of its most gifted archaeologists – Boris Alekseyevich Kuftin. A botanist by training, acquiring knowledge of anthropology and archaeology along the way, Kuftin rose in rank at Moscow State University and GAIMK. But, like so many intellectuals, he and his colleagues were targeted by Stalin’s purge, forcing Kuftin into self-imposed exile in Vologda. A combination of timing and good fortune saw Kuftin invited to work at the National Museum, Tbilisi (rather than face exile in Siberia). From there he went on to make one of the most enduring contributions to the archaeology of the Caucasus. He not only excavated the spectacular Trialeti kurgans ahead of the construction of the Tsalka dam, but using a culture-historical approach he defined a number of archaeological cultures and produced a coherent regional periodisation for the southern Caucasus.³¹ His articulation of the Kura–Araxes horizon and Trialeti assemblages, in particular, formed the basis of subsequent investigations in the late prehistory of the region. It was also during the late 1930s that Soviet archaeologists became captivated with the archaeology of the outlying regions of their Union, the Caucasus amongst them. In addition to Kuftin’s work, investigations at the Urartian fortress at Karmir Blur by Boris Piotrovskii presented researchers with a cultural diversity that was difficult to accommodate into the ‘theory of stages’.³²

POST–WORLD WAR II

The great and threatening stress that the various peoples of the USSR faced leading up to World War II and in the ensuing decades was expressed in a surge of studies that resulted ‘in a growth of national self-consciousness, the expression of national pride and the fostering of the best indigenous traditions’.³³ In archaeology, these sentiments were expressed through ethnogenesis – the view that societies can be understood as ethnically distinct in the surrounding cultural landscape through time.³⁴ This approach suited a multi-ethnic Soviet Union and led to nation-building narratives, which traced peoples’ origins back into prehistory. Concepts such as ethnicity, migration, and continuity were back on the agenda, and Marr’s ‘theory of stages’ was pushed into the background until it was finally rejected in

³⁰ Some of Baiburtian’s detailed ideas have only been published recently (2011); see also Areshian 2005.

³¹ Kuftin 1940, 1941, 1944a, 1944b, 1948, 1949, 1950.

³² Piotrovskii 1950, 1952, 1955.

³³ Bulkin et al. 1982: 276.

³⁴ Weik 2014.

1950. Ancient material culture suddenly had a direct link to contemporary communities because it was seen as a tangible expression of the productive activities of ancestral societies.

By the late 1950s, new forces began to shape archaeological theory and field-work. With the growth of infrastructure projects throughout the USSR, archaeologists persuaded the state to introduce what we now call rescue (or salvage) archaeology, by requiring construction companies to fund excavations of archaeological sites threatened by building activities.³⁵ This commendable desire to preserve and manage cultural assets through law (Cultural Resource Management) was well ahead of comparable developments in the West, where it grew from the conservation and environmental movements of the late 1960s and 1970s.³⁶

Expeditions throughout the Soviet Union ballooned in the 1960s and 1970s to in excess of 500 expeditions a year, with a commensurate publication output of around 3,000 studies a year. In the southern Caucasus, a number of fundamentally important sites were investigated: Kvatskhelebi and Shulaveris Gora in Georgia, Kültepe and Shomutepe in Azerbaijan, and Artik and Metsamor in Armenia, to mention but a few.³⁷ The northern Caucasus was just as active, where researchers such as Evgenii Ignatevich Krupnov, who won the Lenin Prize in 1963, and Vladimir Ivanovich Markovin spearheaded attempts to make sense of the region's ancient past.³⁸

As research standards improved across all disciplines in the 1960s, so too did self-evaluation. Scientific objectivity gradually began to replace the subjectivity that had fuelled the ethnogenetic paradigm. Yet science-based studies remained compartmentalised. Rarely were they dovetailed with material culture into persuasive accounts of cultural change. Even so, major themes arose and became increasingly apparent during this period, including the earliest agricultural settlements (the so-called Shulaveri-Shomutepe culture), copper and bronze metallurgy, and the distinctiveness of the western Caucasus.

'SWINGS AND ROUNDABOUTS'

The period of détente in the 1970s broadened intellectual perspectives. Intensive debates, especially between those who adhered to historical materialism and those who saw value in the emerging field of sociology, resulted in a more sophisticated theoretical framework that was not averse to embracing

³⁵ In the 1980s, a new journal devoted to salvage archaeology was founded, *Arkheologicheskie Otkrytiia Na Novostroykakh*. I would like to thank Giorgi Bedianashvili for drawing my attention to this publication.

³⁶ King 2008.

³⁷ Dzhavakhishvili and Glonti 1962 (Kvatskhelebi); Dzhaparidze and Dzhavakhishvili 1971 (Shulaveris Gora); Abibullaev 1959a (Kül'tepe); Narimanov 1965 (Shomutepe); Khachatryan 1979 (Artik); Khanzadian 1995 (Metsamor).

³⁸ See for example, Krupnov's (1960) synthesis on the northern Caucasus, and Markovin's (1978) seminal study of the dolmens.

views expressed in the West. In the decade before the collapse of the Soviet Union, archaeology had differentiated itself into a number of categories that have been divided into two groups. One group continued to pursue established traditions, whereas the other sought new approaches.³⁹

Those who harked back to one of the earliest phases of Soviet archaeology firmly believed that archaeology came under the umbrella of history. Narrative histories such as the multi-volume *Archaeology of the USSR* provided a broad, yet quite detailed sweep of regional surveys. Historical methods, it was argued, were appropriate for the interpretation of archaeological artefacts. This perspective welcomed criticisms that studies were impressionistic, a view reinforced by a lack of engagement with archaeological science, including radiocarbon analysis. Within this cohort of traditional archaeologists were those who very deliberately addressed the question of origins through the identification of 'ethnic indicators' that linked past and present communities. This proposition of 'ethnogenesis' was applied most vociferously to the origins of the Scythians and Slavs, though it also found favour in the southern Caucasus.⁴⁰ Conceptually, it essentially assumes that the development of human behaviour has been somehow fossilised, enabling ethnic indicators to be transmitted over the millennia.

Soviet ethnographers were the harshest critics of this approach and their research all but debunked the paradigm, which nevertheless continues in some quarters today.⁴¹ At the same time, their work intensified the debate over whether ethnicity is retrievable from archaeological cultures. To this traditional group have been added those studies that attempt to explain the complex societies of the Caucasus and Central Asia. Championed by V. M. Masson, researchers readily accepted the approaches defined by Western archaeologists such as Vere Gordon Childe, Robert Braidwood, and Robert McAdams. Influenced by neo-evolutionism and the early applications of 'new archaeology', especially systems theory, these archaeologists were most interested in explaining socio-political processes and structures.⁴²

Counterbalancing this traditional (normative) trend were a range of studies that started to reflect advances in the Anglo-American schools. The objective and analytical approach to material culture championed by David Clarke struck a chord with some, though others found it too narrow and formalist with little bearing on human behaviour.⁴³ Others found solace in materials analysis. Following the lead of S. A. Semenov and E. N. Chernykh, these

³⁹ Bulkin et al. 1982.

⁴⁰ On the Slavs, see Artamonov 1971, and for the Trans-Caucasus there is Dzhaparidze 1976.

⁴¹ For an incisive analysis of the way ethnogenesis has led to modern national myths of origin, see Shnirelman 2001. Another critical review is Kohl 2012.

⁴² For the flip side, namely Marxism in Western archaeology, see, McGuire 1993; Trigger 1993.

⁴³ Clarke 1968; Bulkin et al. 1982: 228.

researchers viewed the application of new scientific methods to extract the constituent elements of artefacts as the most objective approach to studying cultural dynamics. Accordingly, Soviet archaeology invested much effort into archaeotechnology and developed sophisticated centres for the analysis of stone tool industries and ancient metallurgy.⁴⁴

Yet others turned towards a functionalist ecological approach, advocated by Grahame Clark and some later New Archaeologists. Like Clark, this group of Soviet archaeologists believed that the primary function of culture was survival and, in turn, this was influenced to a certain degree by the constraints of the natural environment.⁴⁵ Ancient communities and their material manifestations were seen as products of an ever-changing interaction with ecology. Even so, this multi-disciplinary school of Soviet archaeology differed from its Western counterparts by stressing productive forces in their framework of sociocultural relations. Finally, there were some researchers, notably Leo Klejn, who believed that in isolation many of the above approaches created silo-like studies. This group appreciated the limits of the archaeological record and argued that the complexity of the past can only be unlocked if there is an appropriate interpretative bridge that links material culture with human behaviour. Much of this sounds familiar to Western ears, and as Bruce Trigger astutely observed, ‘Soviet and Western archaeology have developed in ways that contrast with each other, yet over time both appear to have come to address the same range of problems’.⁴⁶

ARCHAEOLOGY IN THE CAUCASUS SINCE *PERESTROIKA* (1991–PRESENT)

The collapse of communist rule and the painful transition to capitalism and democratisation brought with it a sea change in the archaeology of the Caucasus, now an arena of fruitful collaborative projects and international dialogue. Major transformations in the organisation of academic centres and their funding were part of this process. Within Russia, archaeological research was markedly decentralised, and various local centres emerged. The Institute of Archaeology, with its headquarters in Moscow, was divided into two independent institutes: one based in Saint Petersburg, whereas the other remained in Moscow, changing its name back to the Institute for the History of Material Culture (IHMK), by which it was known before 1956. With the radical economic changes, financial support for archaeology from the government decreased.

The changes in the Caucasus were no less dramatic. In Georgia, for instance, a major restructure has seen the administration of archaeological research come under the umbrella of the Georgian National Museum. The patchwork

⁴⁴ Chernykh 1992.

⁴⁵ Bulkin et al. 1982: 283.

⁴⁶ Trigger 1989: 242.

of semi-autonomous archaeological expeditions that characterised archaeology in the Soviet Union has given way to a centralised system. In many cases, these structural reforms have been accompanied by legal reforms in the field of cultural heritage and new museum policies. Modern management schemes and contemporary administration systems focus on public education and the coordination of academic and museum activities.

Several themes have emerged in post-*perestroika* collaborative research. First, there are new field methodologies and trajectories. Non-invasive surface inspection, especially intensive field surveying, which has a long history in Western archaeology, was not embraced, or indeed encouraged, as a worthwhile pursuit in the Soviet era. Accordingly, early gazetteers of sites mostly comprise a listing of excavated sites, passing references to nearby sites, or chance finds gleaned from preliminary reports, rather than data derived from any systematic ground search. Modern surveys, however, such as the one that initiated project ArAGATS, combine systematic field walking with evidence derived from remote sensing to determine the spatial dimensions of human activities.⁴⁷ These and other forms of evidence are generally managed in Geographic Information Systems (GIS), digital databases, and mapping software that enable information to be layered and interrelated. Salvage archaeology, on the other hand, now very much driven by government agencies, continues its strong tradition. The construction of various gas and oil pipelines such as the Baku-Tbilisi-Ceyhan installation, are adding much information to the normal research-based project.⁴⁸

Field practices and analytical procedures have tightened considerably and now employ state of the art techniques that archaeological sciences have to offer. At the most basic level, a trustworthy chronological backbone of the region is starting to take shape. With the ready availability of radiocarbon analysis, calibrated readings taken from short-lived samples will eventually replace artefact typology as the mode through which to construct a chronology.⁴⁹ Palaeolithic and Mesolithic levels at key sites on both sides of the Caucasus now boast literally hundreds of chronometric dates. We can expect similar robust suites of dates for other periods, but at the moment the coverage is very patchy. Finally, fieldwork is being conducted that is framed within appropriate theoretical constructs aimed at addressing more precisely the nature of past human behaviour, and social and cultural change.

⁴⁷ Smith et al. 2009.

⁴⁸ For example, Gamkrelidze 2010.

⁴⁹ See Chernykh 2011 as an example of how suites of radiocarbon dates have completely transformed our understanding of cultural developments in Eurasia. On issues pertaining to early radiocarbon analyses see, Bronk Ramsey 2008; Manning and Kromer 2011; Shortland and Bronk Ramsey 2013.

PROBLEMS IN THE STUDY OF CAUCASIAN ARCHAEOLOGY

These diverse research traditions of Caucasian archaeology pose some challenges. Apart from formulaic Marxist phraseology in Soviet literature (often little more than a veneer in most studies), many past excavations whether of mounds or caves, cemeteries or fortresses, are embedded with problems that make them difficult to interpret. These pertain to theoretical underpinnings, methods employed in the field, as well as practices of post-excavation analysis and publication. Site- and period-specific difficulties are discussed throughout the book, but it is worthwhile to state candidly at the outset some of the major generic constraints that are often encountered. The Caucasus is not alone in the limitations that early investigations pose, but these drawbacks can be notable for their acuteness.

The analysis and interpretation of depositional layers is the first hurdle, for they are neither systematic nor rigorous in early reports. It is often difficult to determine the nuances of a vertical stratigraphic sequence, for instance, because clumping units into thick layers, especially at Palaeolithic sites, was a common practice. This lack of subtlety has resulted in the mixing of discrete archaeological horizons, causing false impressions of continuity.⁵⁰ Related to this is a shortage or absence of horizontal contextual information. Plans of structures or features rarely note objects in direct relation to each other and to the layers from which they came, limiting the meaning that can be derived from the network of associations.⁵¹

Cultural materialism, reflecting an extreme form of empiricist positivism, is another challenge in early studies. Associated with this view was the supposition that communities could be seen as ‘functioning wholes’, producing assemblages that may reflect their distinctive social identities. This approach, which still resonates strongly in many quarters, was expressed through the construction of complex artefact typologies based on local cultural variants derived from sites without solid chronometric dates. The reasoning behind this practice was rarely articulated and it was combined with an aversion to any form of hypotheses, especially during the Stalinist period. The resultant frameworks led to an oversimplification of complex situations, the over-emphasis of local variants, and confusion over the nature of broader cultural change through time. The tendency to slot distinct assemblages into templates of pre-defined cultures makes it difficult to differentiate between co-existence and linear evolution. Particularism was in vogue, and only ‘facts’ were considered to provide truthful answers. Yet, paradoxically, the occasional sweeping theories, often encompassing several continents, were breathtaking in their simplicity.

⁵⁰ Stratigraphic sections of village settlements, on the other hand, often show the height and depth of features rather than the visible interleaving and relationship of all deposits along the walls of trench. Moreover, Soviet sections were arbitrary lines that crisscrossed a trench drawn after excavation. Hence, it is rarely possible to retrieve information on site formation processes.

⁵¹ On Soviet field methods, see Shelov 1983; Afanasev 1989.

Subsistence economy was a popular pursuit in Soviet archaeology, yet the methodological foundations of many studies were loose. Animal bones, for instance, were not comprehensively collected (small bone fragments were usually discarded), nor were they studied using zooarchaeological techniques, which involve a core series of procedures such as taphonomy. Instead, the information derived from faunal remains often comprised the presence or absence of species, compiled into lists that cannot in themselves elucidate archaeological matters such as butchery patterns, carcass transport and hunting practices. Again, this can cloud the interpretation of hunter-gatherer sites in particular.

Arguably, the most serious constraint in dealing with early studies is the meagre and patchy quantity of radiocarbon readings, a situation that stemmed from a preference for historical correlations and artefact typologies over chronometric dating.⁵² The need to nail down the age of deposits is made all the more acute given that many sites have shallow deposits, precluding the recognition of long-term trends in the evolution of artefact groups. Added to this was a tendency for spot dates; that is, taking one sample to represent a long period rather than collecting several samples to provide a cluster of dates.

Methodological underpinnings in the 1960s should also be considered, and not just those analyses carried out in Soviet laboratories.⁵³ The potential scale of the 'old wood' effect, for instance, was not recognised by the early laboratories.⁵⁴ Nor were background standards, mostly affecting dates less than 10,000 years, adhered to in any uniform manner. Even today, some scientists do not consider adequate the use of graphite (for AMS) or coal (for AMS or radiometric) for organic carbon background standards.⁵⁵

This leads us to a related issue, namely the uncritical comparison of corrected radiocarbon readings. Giorgi Kavtaradze's landmark study of south Caucasian chronology, based on the corrected readings using the R. M. Clark curve, was the earliest attempt at re-calibration, which has had a lasting impact.⁵⁶ The result is that Clark's calibrated dates are still being compared with recent readings calibrated using the OxCal programme. This uncritical comparison

⁵² See, for example, Andreeva's resistance (1987: 276) to Kavtaradze's (1983) high chronology study based on radiocarbon dates.

⁵³ See, for example, the critique by Manning and Kromer (2011) of the early analyses of samples collected from Gordion.

⁵⁴ Any charcoal or wood sample may suffer from the 'old wood' effect, resulting in errors of up to a few hundred years, unless the sample selected is from short-lived tree species or twigs. Two issues may contribute to this age distortion. First, the selection of the innermost tree rings, as opposed to the outermost ones, which would indicate when the tree was cut down. Second, if the timber was seasoned for a lengthy period before use, or if it was reused in a later period.

⁵⁵ I would like to express my gratitude to Alan Hogg and Fiona Petchey (Waikato Radiocarbon Laboratory) for their elucidating comments on radiocarbon analysis.

⁵⁶ Kavtaradze 1983. Kavtaradze's later studies (2004, 2014) have developed the idea of a high chronology and the integration of the Caucasian sequences with those of the Near East.

of dates using different calibration curves can be misleading and signals a need for caution. In this study, I adhere to the international standard known as the Trondheim Convention in quoting radiocarbon readings.⁵⁷ These results are conventional radiocarbon ages.⁵⁸ The calibrated date ranges have been calculated using a probabilities method at a resolution of one year and OxCal v4.1.7.⁵⁹ Accordingly, date ranges are quoted with the end points rounded to single years. Ranges are quoted at 68.2 per cent and 95.4 per cent confidence; the calibrated date ranges referred to in the commentaries are those with the highest probability for 95.4 per cent confidence, unless otherwise specified.

Finally, we come to the dissemination of results. Detailed field reports are rare for the Caucasus. For the most part, the gist of field research was published as short notices (or ‘communications’), usually in limited print runs and mostly distributed locally, or within period-specific synopses. This has less to do with researchers, who worked under very difficult conditions, than the restrictions placed on word length (and also on the production and state-sanctioned distribution of literature of any kind). Investigators were most often allocated just a few pages of text and even fewer for illustrations, onto which were crammed as many illustrations as possible.⁶⁰ The result was generally miniscule images, often badly drawn and of limited value.

This presentation of information was clearly an irritant to many western scholars, none more so than Stuart Piggott, who, when writing on wheeled vehicles, noted perhaps rather harshly that ‘the woeful little scratchy plans and sections (where these exist), the muddy half-tones of bad photographs, the lack of any scale drawings or technical details of vehicle remains, constitute a melancholy memorial to ignorance or disregard of the minimal standards of international scholarship’.⁶¹ In defence of Soviet archaeology, while many publications do confirm Piggott’s description, the original notes, drawings, and photographs (kept in so-called passports) can, by contradistinction, be of an acceptable, or even outstanding quality.⁶²

Despite these seemingly insurmountable difficulties, Caucasian archaeology is extraordinarily rich; a treasure trove of information with some exemplary studies. We owe much to the dedication and passion of early investigators, and our task now is to work through their extensive results and to showcase the bountiful heritage of the region.

⁵⁷ Stuiver and Kra 1986.

⁵⁸ Stuiver and Polach 1977.

⁵⁹ Stuiver and Reimer 1986; Bronk Ramsay 2010.

⁶⁰ I would like to thank Mikheil Abramishvili for pointing out this practice to me.

⁶¹ Piggott 1992: 22.

⁶² One example is the Samtavro archives, whose legacy data relating to excavations conducted in the 1960s through 1980s provide a wealth of rich information and no less than 20,000 black and white photographs. See, Sagona et al. 2010: 317.

CHAPTER 1

THE LAND AND ITS LANGUAGES

Human cultures are inseparably linked to their natural environments, and the mutual interaction between the two is fundamental to any archaeological study. Aspects of geology and ecology such as landscape and hydrology, vegetation and mineral resources form the backdrop of human activities. Climate and arable land, too, should be taken into account; though, like other ecological matters, they should not be used simply as deterministic factors. Instead, all these environmental components should be seen as valuable devices for evaluating spatial and temporal patterns of human behaviour. On one level, they frame the choices available to human communities. On another level, they inform us about the influence humans had on the landscape as they adapted to, and functioned in, their environment.

GEOGRAPHY AND RESOURCES

Detailed aspects of the Caucasian landscape will be dealt with in the pages that follow when they are needed to better explain cultural development. Here, a brief overview of the land and its attributes will suffice.

Physical Geography

Intense compression, the result of the collision between the European and Arabian tectonic plates, created the folded territory of the Caucasus.¹ This event is relatively recent in terms of geological eras, occurring between the Late Eocene and the Quaternary periods.² The thrust also created the

¹ Courcier 2010 for further reading.

² For a clear yet detailed geologic time scale, see Ogg et al. 2008.

Anatolian peninsula to the west and pushed the Iranian Plate in the other direction. Characterised by a series of dramatic uplifts and basins, the northern and southern sides of the Caucasus differ substantially in their physical geography, comprising no less than eleven physical zones.³ At its widest point, in the region of Mt Elbrus, the Greater Caucasus chain measures 180 km. Its lofty peaks are amongst the highest in Europe and the Middle East, with a dozen or more exceeding 5,000 m. High-mountain topography is everywhere in the Caucasus, but the most impressive lies between the looming summits of Elbrus (5,642 m) and Kazbegi (5,033 m), formed as Pliocene-Pleistocene volcanoes. The pair demarcates the central Caucasus, where massive peaks are capped with extensive glaciers.

The Greater Caucasus mountain range is a cuesta region – it has a gentle slope, or back slope, on one side (the north), and a steep slope (front slope) on the other (the south), which run parallel to its spine, the Glavny Ridge.⁴ Rainfall and the environment are very much affected by this sharp divide. The northern slopes receive abundant precipitation where a temperate climate prevails. Limestone and other calcareous rocks in the foreland have created a karst landscape of caves, depressions, and sunken streams. By contrast, the southern regions have a climate that ranges from sub-tropical to semi-desert. The mountains can also be subdivided into three distinct zones along their west–east axis. Briefly, the western sector has a mild and humid climate conducive to mountain forests and meadows. In the central zone, where the highest peaks and greatest number of glaciers are located, the climate is cool and humid promoting meadow environments. The most dramatic interception of rainfall is at the eastern end, in Dagestan, where moist foothills lie in proximity to semi-deserts, which are home to corresponding xerophilous landscapes.

The most significant pass through the mountain chain is the Georgian Military Highway. It runs from Tbilisi to Vladikavkaz, passing through the towering Dariel Gorge, distinguished by sheer rock rising up to 1,800 m in some places. This corridor so inspired the Russian writer, Mikhail Lermontov, that he used it as the opening scene in his novel *A Hero of Our Time* (1840):

What a glorious spot this Valley is! All around it tower awesome mountains, reddish crags draped with hanging ivy and crowned with clusters of plane trees, yellow cliffs grooved by torrents, with a gilded fringe of snow high above, while down below the Aragvi River embraces a nameless stream that noisily bursts forth from a black gloom filled gorge and then stretches in a silvery ribbon into the distance, its surface shimmering like the scaly back of a snake.

³ Volodicheva 2002.

⁴ Volodicheva 2002: 352.



Figure 1.1. Map showing the modern republic boundaries of the Caucasus (created by C. Jayasuriya).

Then starts the descent, and very soon the route follows the valley of the Terek, flowing down towards the northern slopes of the Caucasus. Two main plains, the Kuban and Terek, which are divided by the Stavropol massif, drain the enormous complex of anticlines on the northern side that gradually merge with the steppe region beyond. The northern Caucasus boasts an extraordinary cultural diversity and breathtaking scenery, peppered with austere mountaintop villages. Today, the region is ravaged by political unrest and comprises seven republics of the Russian Federation. From west to east they are: Adygea, Karachay-Cherkessia, Kabardino-Balkaria, North Ossetia-Alania, Ingushetia, Chechnya, and Dagestan (Figure 1.1).⁵

The steep southern face of the Greater Caucasus range is narrow. Less than 20 km separates the edge of the Alazani Valley from the crest of the ridge.

⁵ The northern and southern Caucasus comprise ten separate republics with a total area of 298,843 km². Their names and sizes in square kilometres are: in the north – Adygea (7,600), Chechnya (17,300), Dagestan (50,300), Ingushetia (3,000), Kabardino-Balkaria (12,500), Karachay-Cherkessia (14,100), and North Ossetia-Alania (8,000); in the south – Armenia (29,743), Azerbaijan (86,600), and Georgia (69,700).

Fringing the southern foothills are two drainage basins split by the Surami massif: one is a small wedge of land tucked into the eastern side of the Black Sea (the Colchis lowlands), whereas the larger Kura (Mtkvari) and Araxes inter-fluve discharges into the Caspian Sea. These basins are deep and filled by enormous deposits of Tertiary sediments (several kilometres thick in parts). Such is the physical structure that the region continues to experience intense tectonic shifts, which are accompanied by powerful seismic movements. A number of sizeable rivers water the southern Caucasus, amongst them the River Kura, one of the most significant corridors through the Caucasus. Arising in Turkey and emptying into the Caspian Sea, it flows through the centre of Tbilisi. There are more than ten cities, amongst which Tbilisi is currently the biggest, in the vicinity of this river, whose banks are known to have supported human settlement for 8,000 years.⁶ The western Caucasus is covered with an abundant web of rivers, which are characterised by a slow flow in the downstream. In modern geo-political terms, the southern Caucasus comprises the modern republics of Georgia, Armenia, and Azerbaijan, and the enclave of Nakhichevan. Since the collapse of the Soviet Union, three areas in the south Caucasus remain heavily disputed: Abkhazia, South Ossetia, and Nagorno-Karabakh.

The combination of high mountains, deep basins, and two flanking seas place the Caucasus on the border between temperate and sub-tropical environments. Freezing winds blowing off the Russian steppes drop the average January temperature in the Kuban Plain to -5°C , though it can plummet to an absolute minimum of -35°C . Southern Caucasia is more sheltered and corresponding January temperatures are 9°C for sub-tropical Colchis and 6°C for the drier eastern region. Precipitation is also quite different across the isthmus and arrives from the west, in a system that is replenished by the waters of the Black Sea. On either side of the highest peaks, precipitation ranges from 1,500–2,000 mm in verdant Colchis through 400–800 mm for the Kuban depression and the central Kura-Araxes basin to 250–200 mm for the semi-arid lowlands of Dagestan and Azerbaijan. The cycle of precipitation differs too. In the western Caucasus, where highlands run steeply to sea level, rain is heaviest in winter, whereas the central and eastern regions have their wettest periods in June and July.

Mineral Resources

The Caucasus is renowned for and well endowed with metal resources. It is one of the most important ore-bearing regions in the world. A recent global imaging survey conducted by the Le Centre National de la Recherche Scientifique (CNRS) and the French Geological Survey has identified more than 1,800 outcrops and deposits, ranging from native metals, such as gold,

⁶ Lyonnet et al. 2012.

silver, and copper, to various mineral ores.⁷ Copper is the most common metal, with notable concentrations in the central south Caucasus, forming an arc around the top of Lake Sevan and also extending along the spine of the main mountain range. Gold is well represented, too, both as primary and placer deposits, and cover the same general areas as copper, though with far fewer occurrences. Silver, on the other hand, is conspicuous for its scarcity with the north-east mountains of Dagestan harbouring the majority of deposits. The presence of tin, in the form of cassiterite and stannite deposits, located along the central region of the Greater Caucasus, is particularly noteworthy, given that the region is characterised, as we shall see, by arsenical bronzes in the earliest stages of metallurgy. Finally, there is iron. Here again the basins of the Kura and Araxes rivers are peppered with many deposits.

VEGETATION AND CLIMATE

Dramatic altitudinal differences require vegetation in the Caucasus to be categorised into zones based on both height above sea level and horizontal spread. Seven such zones have been recognised, which incorporate fourteen regional sequences.⁸ The driest area is a narrow strip of desert vegetation located along the shore of the Caspian Sea north of Baku. Semi-deserts are located considerably higher. In southern Armenia and Nakhichevan, the upper boundary of mountainous xerophytes is 1,500 m, gradually dropping to 250 m where they merge with arid woodlands. Steppes are particularly prevalent in the northern foreland where various species of *Stipa* (feather grass) cover vast areas. Grasslands also occur in Armenia and the adjacent region of Dzhavakheti, though in some areas they are a recent development, having replaced woodlands as areas were cleared in recent centuries. Sparse arid woodlands survive in parts of eastern Georgia, Azerbaijan, and Karabakh, and trees mostly comprise pistachio (*Pistacia mutica*), pear (*Pyrus salicifolia*), and Caucasian hackberry (*Celtis caucasica*). Below them, various shrubs and grasses cover the ground. Montane forests vary greatly in the Caucasus depending on altitude, precipitation, humidity, and temperature.⁹ There are oak trees along the southern foothills and the Surami massif, and in northern and eastern Armenia. Beech forests, on the other hand, stretch along the full length of the Caucasus Mountains, where pine forests have a more restricted distribution in the central region. Girding the humid lowlands of Colchis, characterised by marshy *pedalfers* and red and yellow soils, are chestnut forests and dark coniferous forests (firs and spruce), which reach out into the Pontian (Colchis) Mountains and foothills, where humus-carbonate soils are widely distributed.

⁷ Courcier 2010: 76–9, map 2; 2014: 579. See also the map in Gambashidze and Stöllner 2016: 22.

⁸ Gulisashvili et al. 1975; Volodicheva 2002: 363–73.

⁹ Volodicheva 2002: fig. 15.6.

When we come to examine the archaeological evidence, we need to bear in mind the changes in vegetation through time. This will inform us on the setting of sites and how human communities managed their prehistoric environments. Some of the clearest palynological evidence is to be found for the Tsalka Plateau and the Samtskhe-Dzhavakheti region, in southern Georgia, which today comprises three broad vegetation zones: semi-arid steppe lowlands where Chenopodiaceae and grasses are preponderant; a forest belt covered by deciduous trees, especially oak (*Quercus*); and the high altitude region above the snow line where pine (*Pinus*) and Poaceae form the main vegetation. To determine the accuracy of the ancient pollen evidence, a useful test is to verify the relationship between modern pollen and contemporary vegetation.

Are they comparable? Although the correspondence is not exact, Simon Connor concludes that for southern Georgia, at least, it is on the whole trustworthy.¹⁰ The main discordance derives from the high levels of grasses (*Poaceae*), whose pollen morphology does not enable the distinction between plants from the wetlands and dry land, and thereby makes them ‘a major source of “noise” in the pollen data from this region.’¹¹ Another factor to consider is the pollen production characteristics of various plants. Some trees such as ash (*Fraxinus*) and hazel (*Corylus*) that grow in the lower tree line, for instance, emit a limited quantity of pollen. Xerophyte scrub, too, is very difficult to detect in a pollen spectrum, and its presence is established by association, namely by high levels of *Plantago* and *Artemisia*. By contradistinction, trees such as pine (*Pinus*) have a very efficient pollen dispersal system, accounting for the abundance of its pollen. Finally, there is the human factor – the impact that farmers and stock-breeders have had on the environment.

Connor has provided a very clear and detailed synthesis of palynological research in Georgia.¹² Here we focus on two important pollen cores Connor took from lake sediments in the Tsalka (Trialeti) Plateau. One is the pollen diagram from Lake Aligol that stretches back 14,350 years; the other is the core taken from the deposits at Lake Imera, which covers the past 7,000–8,000 years (Figures 1.2 and 1.3).¹³ In the earliest pollen zone of the Lake Aligol core, corresponding to the late-glacial period, the region was a hyper-arid desert or semi-desert steppe landscape. This is indicated by the preponderance of *Ephedra*, juniper (*Juniperus*), wormwood (*Artemisia*), and goosefoot (Chenopodiaceae). As in other parts of the Near East, the climate was most severe around 10,000 BC during the ‘Younger Dryas’ stadial. Then precipitation began to rise and with it the region witnessed an expansion of tree species such as hazel (*Corylus*) and birch (*Betula*), within an otherwise arid, open steppe.

¹⁰ Connor 2011.

¹¹ Connor 2011: 87.

¹² Connor 2011.

¹³ Connor and Sagona 2007: 23–6.

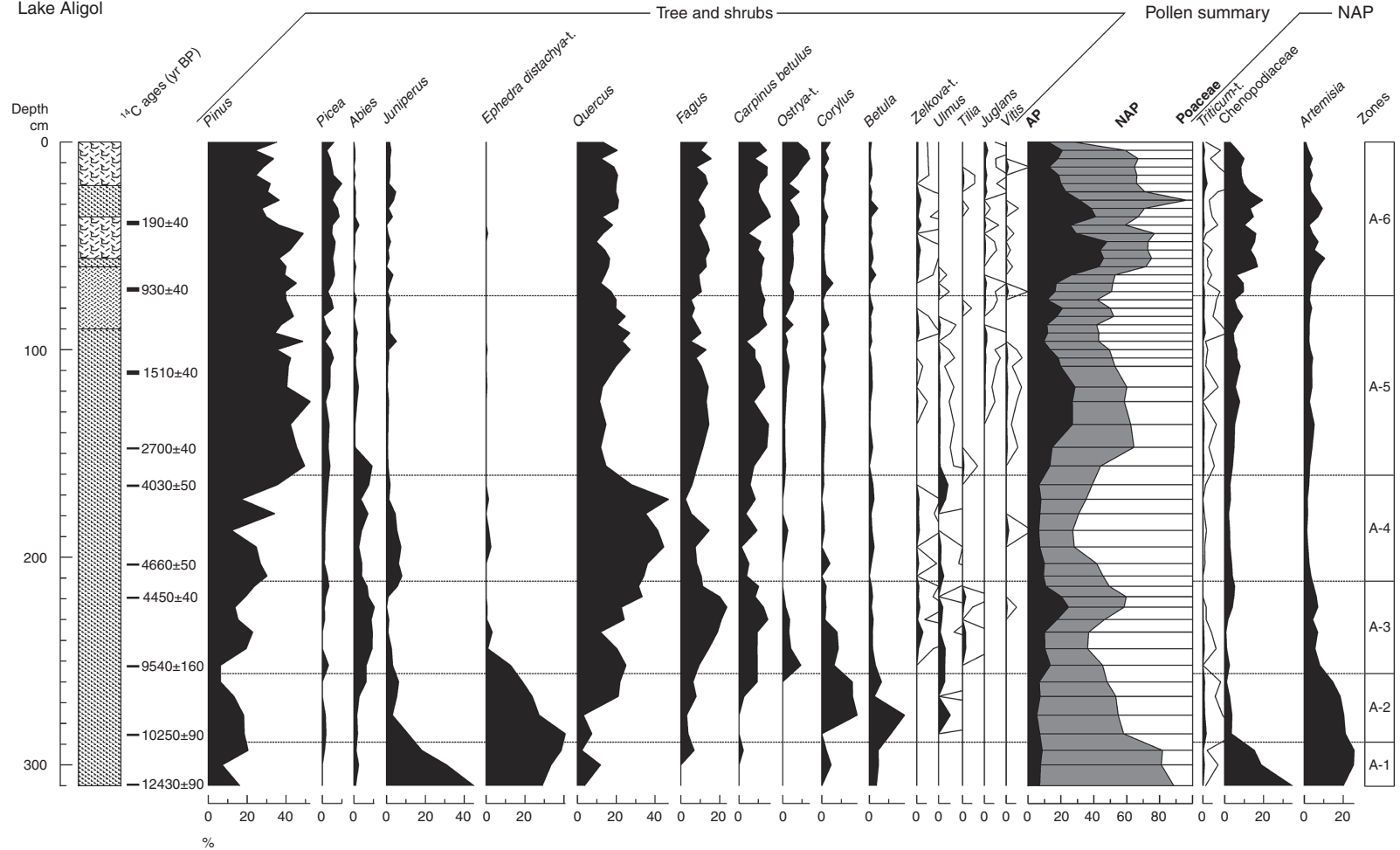


Figure 1.3. Lake Aligol pollen spectra (after Connor 2011).

The pollen spectra of Aligol zone 3 (ca. 9000–3000 BC) are very similar to those of Imera zone 1. Woodland species such as elm (*Ulmus*), beech (*Fagus*), hornbeam (*Carpinus caucasica*) and fir (*Abies*) were now established, and shared the landscape with subalpine meadow species, including *Thalictrum*, *Dipsacus*, *Campanula*, and *Polygonum bistorta*. The forest cover changed at the beginning of zone 2 in both cores, with an increase in fir (*Abies*) and beech (*Fagus*). Noteworthy for possible cultural connections are the high charcoal concentrations between 4000 and 3000 BC, a characteristic both the Aligol and Imera cores share. Whether or not this fire frequency is to be associated with landscape clearance by human communities – perhaps a type of swidden agriculture – is something to be considered. Another indication that fires might be associated with human land use is an increase in the pollen of agricultural plants and weeds in the Imera core: *Triticum* (wheat), *Centaurea cyanus* (cornflower), *Silene* (campion), *Linum* (flax), *Vicia* (vetch), *Scleranthus* (knawel), and *Trifolium* (clover), amongst others. A coeval fire history associated with drier climatic phases has also been recorded at Zarishat, Armenia.¹⁴ This study, however, does not associate the burning of sedge-based fens with human impact, but views it as part of the broader Mediterranean precipitation pattern with its drier conditions.

Fires dramatically ceased around 3000 BC and with that, oak trees flourished. Ground covers changed too. Meadow herbs declined, whereas grasses of the steppic variety increased in quantity and type, suggesting that an oak-dominated savannah surrounded the environs of Lake Aligol. The Imera core indicates that other trees were sprinkled across the countryside, including hornbeam (*Carpinus caucasica*), hazel (*Corylus*), and linden (*Tilia*). This points to an environment somewhat similar to the dry Highland Oak (*Quercus macranthera*) woodlands that currently grow around the edges of the Tsalka Plateau. There is a high representation of juniper (*Juniperus*), St. John's Wort (*Hypericum*), and knotgrass (*Polygonum aviculare*). The persistence of plantain (*Plantago major*), cinquefoil (*Potentilla*), and cereal pollen throughout this phase indicates local pastoral and agricultural activity. The centuries that followed were equally dramatic in terms of regional climate change. Both cores show that the oak savannah gave way to open coniferous woodland between 2500 and 1500 BC (zone 5). A mix of pine (*Pinus*) and fir (*Abies nordmanniana*), not unlike the association found along the northern stretches of the Tsalka Plateau today, now covered the region. But by the ninth century BC, fire-sensitive fir trees were burnt out, 400 years earlier than those near Lake Imera. Whether these fires were intentional and part of the management of land by human communities remains to be seen. Then, between 1200 and 1700 AD, the Tsalka Plateau was denuded of trees and has remained a treeless landscape ever since.

¹⁴ Joannin et al. 2014.

This picture of vegetational change is broadly consistent with a study of a sediment core from Lake Paravani covering the past 13,000 years from the Younger Dryas onwards.¹⁵ The dynamics of vegetation patterns in the Caucasus are such that variability in post-glacial palaeoclimates is to be expected. In the case of Lake Paravani, which is larger than both the nearby Imera and Aligol lakes, for instance, increasing aridity during the Younger Dryas appears to have limited tree growth dramatically and allowed *Chenopodiaceae* to spread (80–70 per cent when compared to Aligol's 10–30 per cent). Three palaeoecological phases have been identified in the Paravani core. In the earliest phase, reaching from 13,000 to 8500 BP, the area was cold, dry, and steppic with high values of *Chenopodiaceae*. During the second phase, the climatic optimum, trees began to cover the landscape beginning around 8300 cal BP, which broadly corresponds with the advent of the Neolithic period. These favourable conditions continued until about 3000–2000 cal BP, coeval with the beginning of the Iron Age, when the plateau witnessed a decline of forests and an expansion of herbaceous plants. This change is most likely the result of human activity.

A brief mention should be made here of western Georgia, where trees were much more widespread during the Pleistocene to Holocene transition when compared to eastern Georgia. The Colchis region has been referred to as a 'glacial tree refugia', a situation brought about by the high humidity of the region, which stands in contrast to the aridity of the continental climate experienced on the plateaus.¹⁶ This vegetation pattern owes much to the Black Sea, which, like the Mediterranean, was influential in determining local ecological variations during the Younger Dryas.

GEOMORPHOLOGY

The fluctuations of both Caspian Sea and Black Sea levels are of interest to archaeology for the potential they have to shed light on changing settlement patterns over time. Two aspects of their geomorphology are of particular importance: their changing shorelines and the way their eustatic variations affect the terraces of rivers that feed them. Studies looking at the human response to these variations are a relatively new, but promising development. We now have, for instance, a well-dated sequence of landscape changes shaped by climatic influences extending back to 40,000 years ago for the area around the Caspian Sea.¹⁷ Within this timeframe, six phases have been recorded when the middle stretches of the Kura River (one of several feeders) aggraded, and seven phases when its valley floor was incised. Of particular interest is the interlude 11,000 to 3,200 years ago, incorporating the period from the Neolithic through the

¹⁵ Messenger et al. 2013. See also Margalitadze 1995 for the Lake Gomnis sequence.

¹⁶ Messenger et al. 2013.

¹⁷ Ollivier et al. 2015.

Late Bronze Age, when terraces of the middle Kura Valley in Azerbaijan were built up. Likewise, throughout the Iron Age, the region was affected by fluvial incisions.

More attention has been devoted to the Black Sea, an example of a marginal basin whose water level is also dependent on Eurasian climatic fluctuations, more than global sea level changes.¹⁸ Both levels and the nature of its waters have changed dramatically through time owing to its early isolation from the global ocean and then later to its connection with the Mediterranean Sea. The result is a highly stratified water column. Today it is the world's largest anoxic basin, ideal for the preservation of shipwrecks and organic material, and during the last glacial period it was a low-salinity lake. The reduced salinity during its period of isolation was enhanced by an increase of freshwater runoff. It is the flooding of the Black Sea when the waters from the Mediterranean Sea breached the Bosphorus Strait that has generated the most debate. In the late 1990s, scientists proposed that the earliest signs of a marine environment occurred as late as 9,000 to 8,000 years ago, when the Mediterranean was 30 m below its present level.¹⁹ Despite its critics, this hypothesis concerning the shift from a freshwater lake to salt water body is basically correct.

With both the Caspian and Black Seas, the clues that they may hold on early sea travel are tantalising. The number of Byzantine shipwrecks identified at two sites – Chersonessos A and Sinop D (named after the nearby ports and located at the oxic-anoxic boundary in the Black Sea) – point to the potential of maritime archaeology and the prospects of identifying even earlier shipwrecks.²⁰

THE LANGUAGES OF THE CAUCASUS AND DNA

Although this book is devoted to text-less societies, the languages of the Caucasus deserve attention for two reasons. First, there is the role they played in the thinking of Soviet archaeologists. Languages were at the core of 'ethnogenesis' reasoning, a theoretical framework used from the late 1930s to the 1950s to examine the ethnic origins, ostensibly from prehistoric times, of the various nationalities that comprised the USSR. Ancient material culture could be linked directly to contemporary communities, it was argued, because it was seen as a tangible expression of the productive activities of ancestral societies. There is also the question of whether prehistoric language groups can be identified with any degree of certainty and, in turn, whether they can define cultural boundaries. In this context, the most debated topic has been the spread of Indo-European language.²¹

¹⁸ For an important collection of papers, see Buynevich et al. 2011.

¹⁹ Ryan and Pitman 1998.

²⁰ Brennan et al. 2011.

²¹ Literature on the Indo-European puzzle is vast; for introductions see, Renfrew 1987; Mallory 1989; Mallory and Adams 2006; Anthony 2007; Anthony and Ringe 2015.

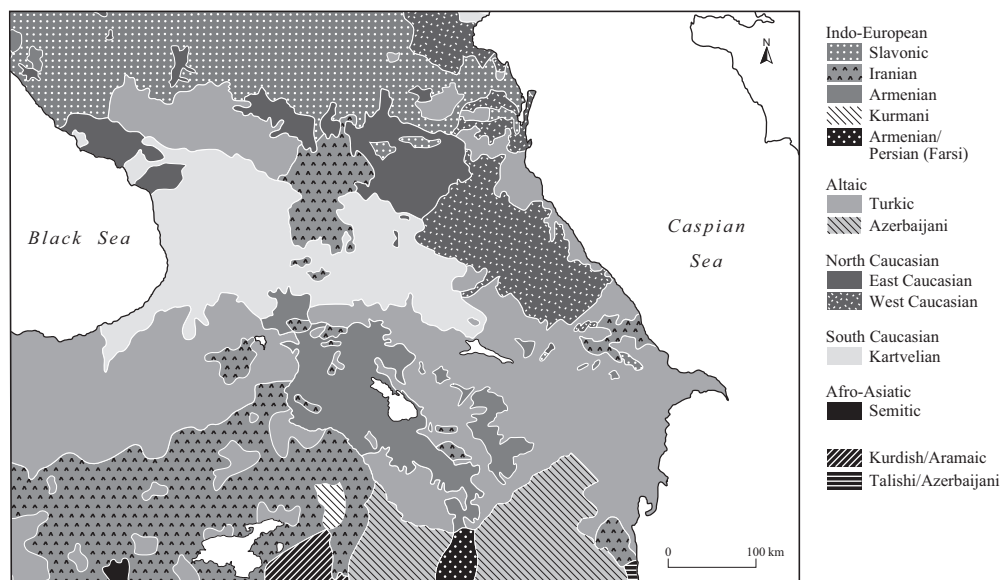


Figure 1.4. Map showing the various language boundaries in the Caucasus (after Comrie 2007; redrawn by C. Jayasuriya).

The Caucasus presents a linguistic diversity matched by few other areas in the world of comparable size. This ‘mountain of tongues’ (*jabal al-alsun*), as the tenth-century geographer al-Mas’udi referred to the Caucasus, harbours some fifty-four languages belonging to three major families – the Indo-European phylum, the Altaic phylum, and the Caucasian phylum.²² Plotting the distribution of current languages spoken in the region is no easy task. With the collapse of the Soviet Union came major population movements, which have altered the language boundaries considerably. Furthermore, certain areas have seen the rise of Russian as the dominant language skewing the statistics away from other languages spoken by indigenous inhabitants. Additionally, there is the patchiness of the data themselves. In some cases, the censuses are several decades old and often grouped according to ethnic rather than language criteria. In the southern Caucasus, for instance, speakers of Svan, Mingrelian, Laz, and Tsova Tush are generally clustered together as Georgian.²³ Even so, an outline of the linguistic composition of the Caucasus is possible (Figure 1.4).

Of the Indo-European family, Armenian is the largest language group. Modern Armenian is generally grouped into Western Armenian, spoken mainly in Turkey and amongst those of the diaspora, and Eastern Armenian, spoken in the Caucasus and parts of northern Iran. A feature that distinguishes the two and differentiates Eastern Armenian from Classical Armenian is the

²² Catford 1977: 283; Comrie 2007: 231; Map 59.

²³ Bruk and Apenchenko 1964.

agglutinative morphology of the latter.²⁴ Another language of this phylum spoken in the Caucasus is Ossetian, a Northeast Iranian language situated in the northern Caucasus. Other minority languages include Kurdish (spoken widely in eastern Turkey), Talishi, and Tat.

The Altaic phylum in the Caucasus is a relative newcomer to the region. Introduced around the middle of the eleventh century with the movement of nomadic tribes from central Asia, it is represented mainly in Azerbaijan, which is predominately populated by speakers of Azeri, a southern Turkic or Oghuz language, also spoken in the borderlands of north-western Iran. Fewer people speak Western Turkic (Kipchak) languages, of which Kumyk and Karachay-Balkar are the most prominent and located in the northern Caucasus.

The most diverse language phylum is Caucasian and it comprises languages that do not belong to the other major families.²⁵ These languages are grouped into three categories: Kartvelian (South Caucasian), West Caucasian, and East Caucasian. Most of the speakers of this family are located within the modern boundaries of southern Russia (the northern Caucasus), Georgia, and Azerbaijan. Population movements have seen the speakers of two languages shift to Turkey: Ubyk, now extinct, was spoken until recently in the village of Hacı Osman Köyü, near the Sea of Marmara, whereas Laz is still spoken in northern Turkey and adjacent regions in Georgia.²⁶ Caucasian languages are not distinguished by their genetic unity. At the same time, they boast some extremes in their structure; West Caucasian languages, for instance, use very few vowels and have many sounds (phonological inventories). By contrast, Kartvelian languages, though displaying smaller consonant inventories, tend to favour the clustering of consonants. The extensive use of the ergative case, however, is a feature common to all Caucasian languages.²⁷

Kartvelian comprises four languages: Georgian, Svan, Mingrelian, and Laz, though some linguists consider the latter two dialects of Zan. West Caucasian, or the Abkhaz-Adyghe sub-group, is spoken in Abkhazia and the northern Caucasus, and comprise Abkhaz and the closely related Abaza, and the Circassian tongues of Adyghe and Kabardian. The classification of East Caucasian languages is complicated owing to the number of speech communities, some closely related. Two broad sub-groups exist: Nakh and Dagestanian. Chechen and Ingush are both written languages of the Nakh sub-group and are found in the northern Caucasus, whereas Tsova Tush (or Bats) is spoken in northern Georgia. The Dagestanian languages are greater in number and fall into five sub-groups, each with its own array of languages: Avar-Andi,

²⁴ Clackson 2004.

²⁵ Comrie 2007: 238.

²⁶ Comrie 2007: 238.

²⁷ The ergative case identifies the noun as a subject of a transitive verb. So rather than 'he moved', speakers of an ergative language would say 'him moved'. For an introduction to the Caucasian languages, see Hewitt 2004.

consisting of some fourteen languages clustered for the most part in northern Dagestan, the distinct languages of Lak and Dargi in central Dagestan, and the ten Lezgian languages found in south-eastern Dagestan and northern Azerbaijan.

The languages of the Caucasus have also attracted the attention of geneticists interested in knowing the correspondence between gene flow and languages. One study analysed the mitochondrial DNA (mtDNA) sequences from a uniparental perspective from 353 individuals from across the Caucasian territories, representing nine groups and three major linguistic families (Indo-European, Altaic, and the North and South Caucasian group).²⁸ At the core of the research lies an intriguing question: To what degree do linguistic diversity and a rugged landscape with major geographical boundaries affect the genetic makeup of the populations? Looking at the position of the Caucasus within greater Eurasia, this investigation found population groups in the Caucasus are more genetically heterogeneous than Europeans, but not as diverse as peoples in the modern Middle East. Genetically speaking, then, the Caucasus occupies an intermediate position, suggesting one of two possibilities. Either the peoples of the Caucasus derive directly from earlier Near Eastern groups and are, in turn, ancestral to European populations, or they represent a mixture from both regions. Even so, the research has confirmed earlier studies that found there is no mitochondrial DNA relationship between the Basque and Georgian peoples, finally putting to rest the often-touted idea that their respective languages are related, belonging to a pre-Indo-European group extending back to the Palaeolithic period.²⁹ More conclusive are the results at the local level. Here no correspondence was found between the high genetic diversity and the variability in languages. Moreover, the peoples of the Caucasus have a closer genetic relationship with their geographical neighbours than their linguistic relatives. In this regard, for instance, Ivane Nasidze and Mark Stoneking have noted that:

Armenians, who speak an Indo-European language, did not group with other Indo-European-speaking populations, and Azerbaijanians, who speak an Altaic language, did not group with other Altaic-speaking populations. Rather, Armenians and Azerbaijanians grouped genetically with each other and then with other Caucasus groups.³⁰

This correlation between geography and genetics is fascinating not only because it transcends linguistic boundaries, but also in its conclusion that the Caucasus Mountains have not acted as a meaningful barrier in gene flow, with groups on either side of the range sharing a close gene pool irrespective of their language, and their divergent material culture as well.

²⁸ Nasidze and Stoneking 2001. See also Barbujani et al. 1994 and Haak et al. 2015.

²⁹ For the mtDNA study, see Bertorelle et al. 1995, and for the connection between Basque and Georgian, see Gamkrelidze and Ivanov 1995. On Upper Palaeolithic genomes see Jones et al. 2015.

³⁰ Nasidze and Stoneking 2001: 1205.

These results overlap with those of a more recent study, which also shows minimal genetic variation in the Caucasus, and less than the differentiation evident in Europe and the Middle East.³¹ Remarkably, this study has shown that the greatest genetic distinction in the Y-chromosome spectrum lies between the east European Slavic peoples and those of the Caucasus, rather than between populations inhabiting the territories north and south of the Caucasus mountain ridge. This suggests that the core genetic structure of the Caucasus may have been established before the linguistic diversity appeared. Moreover, according to the authors, collectively the peoples of the Caucasus have strongest genetic ties with populations from the Middle East.

How, then, can this geographical and genetic distance model be explained? The evidence suggests, in the first instance, that the basic population groups of the Caucasus, as defined by their mitochondrial DNA, have been in the region a long time, the result of prehistoric population expansions that occurred around 29,000–47,000 years ago.³² A corollary of this is the hypothesis that most languages currently spoken in the Caucasus are of relatively recent date and replaced indigenous languages with no corresponding contribution to the gene pool. In the case of Azerbaijan, we know this occurred around the eleventh century when the Oghuz Turks arrived from the eastern lands.³³ This language replacement hypothesis also maintains that either technological innovations and/or the dominance of a new elite class could bring about the displacement of older languages. Similarly, the impact on mitochondrial DNA in a region would be negligible if the incoming group was relatively small and predominantly male. This might have been the case when peoples crossed the Caucasus from the north, an aspect we touch on throughout the book.

³¹ Yunusbayev et al. 2012.

³² Nasidze and Stoneking 2001: 1201.

³³ Johanson 1998.

CHAPTER 2

TRAILBLAZERS: THE PALAEOLITHIC AND MESOLITHIC FOUNDATIONS

The Caucasus was first settled by hominins, who can be reasonably labelled the first ‘true humans’. Recent research has classified these pioneers as *Homo erectus ergaster georgicus*, a descriptor that takes into account connections with the East African lineage as well as the geographical location of this deme.¹ Evidence from the Caucasus touches on some of the key issues that are at the forefront of prehistoric archaeology, including hominin dispersal in the Old World, the notion of behavioural ‘modernity’, the demise of the Neanderthals at the end of the Middle Palaeolithic, and the use of genetics, specifically the sequencing of mitochondrial DNA (mt DNA) from fossils, to determine the relationship of Neanderthals to anatomically modern humans.

Unlike its neighbour Anatolia, the Caucasus has a long history of Palaeolithic research extending back to the late nineteenth century, and it boasts rich and impressive sequences.² Even so, the study of the Palaeolithic poses some significant limitations. To the few caveats outlined in Chapter 1, it is worthwhile to add the more period-specific restrictions of early studies. Most obvious, perhaps, was the early focus on cave and rock shelters even though many open air sites represented by surface scatters of stone tools were known. This means that our current understanding of the Palaeolithic settlement patterns and subsistence strategies are necessarily skewed. Another concern has to do with the morphological categorisation of formal retouched tools. This approach, based purely on shape, had not adequately explained the technological diversity of the assemblages, derived from an analysis of core reduction strategies, nor had it elucidated matters such as the availability and exploitation of stone resources. Variations in palaeo-environments and subsistence strategies were

¹ Lordkipanidze et al. 2013: 330.

² Liubin 1989: 9–11; Ljubin and Bosinski 1995: 208–9. For Anatolia, see Sagona and Zimansky 2009: 10–36.

also seen through an unfocused lens, owing to poor sampling methods of animal bones. All these matters have been rectified in recent investigations, which have revolutionised our understanding of these earliest settlers, but we always need to bear in mind that the archaeological record nonetheless varies greatly in quality and scope.

HOMININ ARRIVALS IN THE LOWER PALAEOLITHIC

If we adhere to the view that the course of human evolution comprised a series of short, abrupt steps separated by long periods of little or no change, then we can say that the first three major steps are as follows: first is the poorly documented period between eight and six million years ago when the australopithecines, the earliest hominins, and chimpanzee lineages diverged in Africa; then came the makers of the Oldowan cultural complex, who produced the hitherto oldest known stone tools, which were struck about 2.6 million years ago;³ the third major step, which occurred ca. 1.8–1.7 million years ago, witnessed the appearance of a hominin (*Homo erectus ergaster*) that, aside from its small brain case, foreshadowed living populations today in terms of its anatomy, behaviour and the landscapes it chose to settle. Caucasian history begins with this third major evolutionary step (Figure 2.1).

Characteristics of the Earliest Settlers

Unlike most places, where the earliest human presence is known from artefacts alone, in the Caucasus we are very fortunate also to know what the people looked like. In 1984, excavations at the medieval fortress of Dmanisi exposed an ancient river deposit beneath the floor of the fortress, which contained animal bones and flaked stone tools. It was not until further excavations made spectacular discoveries including four partial human skulls, two mandibles, and some post-cranial elements that the Caucasus was catapulted onto centre stage of early hominin research.⁴ More recently, a fifth cranium (D4500) and its mandible (D2600), ‘the world’s first completely preserved adult hominid skull from the early Pleistocene’, have been reported.⁵ This impressive sample of hominid remains together with more than 1,000 artefacts and double that

³ New fieldwork in West Turkana, Kenya, has shown that our hominin ancestors were making stone tools 3.3 million years ago, some 700,000 years earlier than the Oldowan (Harmand et al. 2015). Termed ‘Lomekwian’ after Lomekwi 3, the findings promise to extend knowledge of the first toolmakers to a time well before the emergence of the genus *Homo*. What the tools were used for is not yet known, nor is the identity of the toolmakers.

⁴ Gabunia et al. 2000a; Vekua et al. 2006; Lordkipanidze et al. 2007; Tappen et al. 2007; Rightmire and Lordkipanidze 2010.

⁵ Lordkipanidze et al. 2013: 326. See also Schwartz and Tattersall 2002: 113–24.

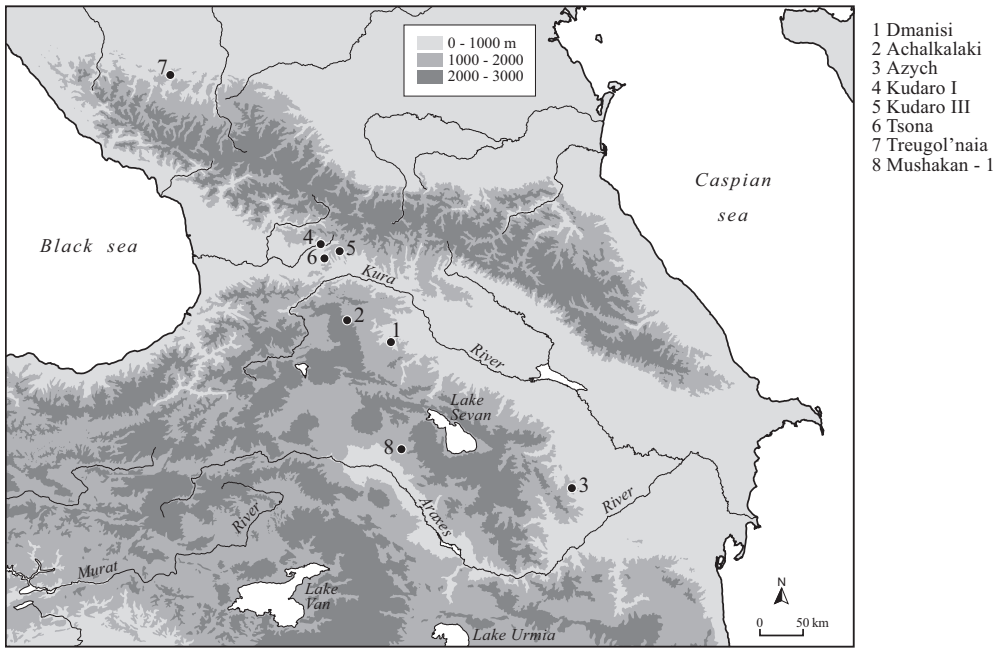


Figure 2.1. Map showing the key Lower Palaeolithic sites in the Caucasus (drawn by C. Jayasuriya).

amount of animal bones have not only fundamentally changed our perception of the Caucasian Palaeolithic, but also provided the earliest evidence for human dispersal out of Africa, and – in turn – caused us to rethink the evolution of early *Homo*.

Dmanisi has the richest collection of unquestionable early *Homo* remains from any single site or comparable stratigraphic context. Although the specimens do reveal variations in anatomy, they are not significant enough to warrant grouping them in more than one hominin taxon. In fact, these differences in the physical anthropology provide a unique opportunity to study variability within an early *Homo* population.

The Dmanisi skulls and jaws closely resemble specimens from East Africa. Of the five crania, skull 5 (D4500) and its mandible (D2600) are clearly different from other known early *Homo* fossils (Figure 2.2(1)). Not distorted by the processes of deposition, they afford a precise picture of the individual. The hominid had a large face that protruded forward (prognathic), a braincase measuring $546 \pm 5 \text{ cm}^3$, the smallest of the Dmanisi sample, probably weighed between 47 and 50 kg, and stood between 146 and 166 cm tall.⁶ This hominid gives us the most complete representation of an early, adult *Homo*. The combined data place skull 5 at the lower end of size variation for the genus *Homo*,

⁶ Lordkipanidze et al. 2013: 327.

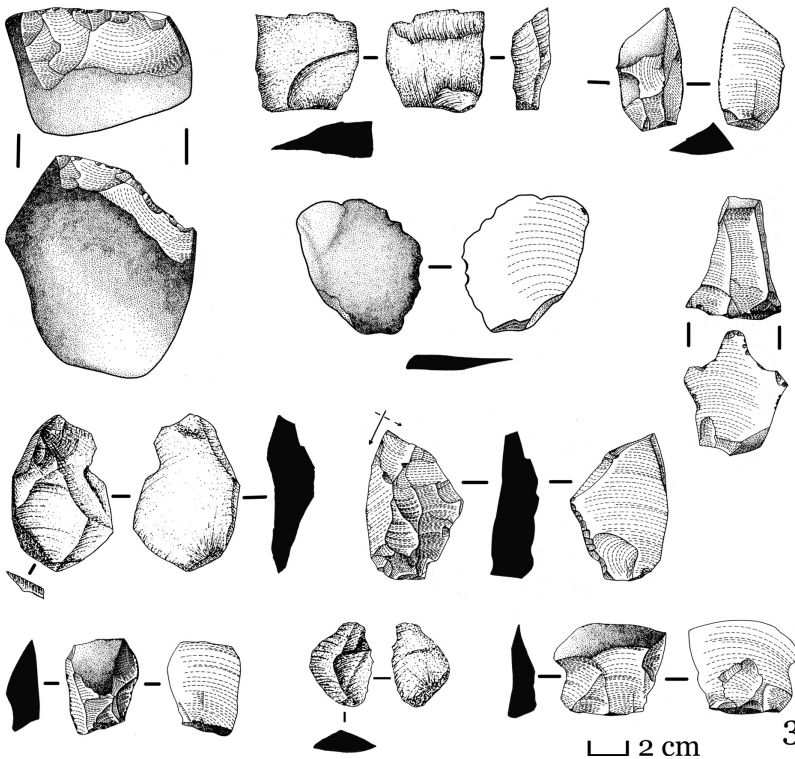
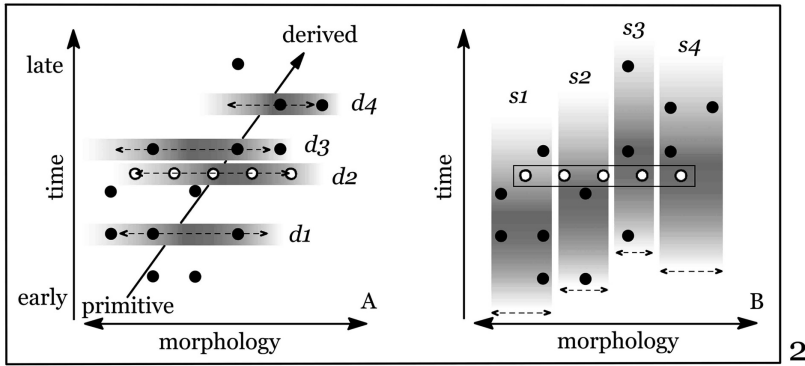


Figure 2.2. Dmanisi **(1)** computer-assisted reconstruction of the five fossil *Homo* skulls from Dmanisi (courtesy M. Ponce de León and Ch. Zollikofer, University of Zurich, Switzerland); **(2)** graphic representation of two contrasting hypotheses on the evolution of *Homo*. Model A favours palaeodemes, Model B argues for palaeospecies (reprinted with permission from AAAS); **(3)** stone tools, mainly flakes and flaked pebbles, from Dmanisi (after Ljubin and Bosinski 1995; Ferring et al. 2011).

situating it close to that of *Australopithecus*. Skull D2700 and mandible D2735, which were found apart but almost certainly belong to a single individual, for instance, have been compared with skull KNM-ER-1813 from East Turkana (Koobi Fora) in northern Kenya. They both have a long, low and small brain case (ca. 600 cc), an upper jaw that protrudes forward in a pronounced manner, a flat external nose, a powerfully constructed brow ridge, and a broad middle and upper face. The East Turkana specimen, however, has been assigned to *Homo habilis* in the strict sense. According to the African evidence, *Homo habilis* can be placed within the timeframe 1.9–1.6 million years ago, with the youngest specimens coming from the Olduvai sediments.

Two other skulls from Dmanisi (catalogued D2280 and D2282), on the other hand, have features that clearly group them within the *Homo erectus ergaster* subspecies, which persisted elsewhere to 1 million years or later. These similarities between the Dmanisi fossils and those from Africa have two implications. Either we are looking at an early dispersal of two species from Africa, or the morphological attributes of *Homo erectus ergaster georgicus* need to be expanded to incorporate features usually assigned to *Homo habilis*.⁷ Dmanisi skull 5 has also weakened the conventional hypothesis of the evolution of early *Homo*. Its investigators have suggested that the known fossil record reflects variations of palaeodemes, overlapping in time and morphology in separate geographic zones, rather than distinct palaeospecies, overlapping in time and space (Figure 2.2(2)).⁸ Whatever the outcome, the fossil hominin remains from Dmanisi represent the oldest undisputed specimens outside Africa. As such, they have expanded the known geographic range of the early *Homo*.

Despite the richness of the Dmanisi finds, many questions remain. The most intriguing are those that concern behaviour. How did this community use its technology to survive, and how similar or different were its actions and habits from ours? When we look at the spatial arrangement of stones and bones, the absence of familiar features that make up a campsite is noticeable. There are no hearths or post-holes to speak of, no signs that a tent may have been pitched. Nor do we have, as yet, well segregated areas for the disposal of rubbish – flint debris and animal bones that were discarded.

Lake Sites, Caves, and Scatters

The Dmanisi pioneers chose a promontory 80 m above the confluence of the Mashavera and Pinezouri river valleys, a spectacular view heightened by the sound of rushing water that must have appealed to them. This is volcanic country and the Javakheti chain lies to the west of the site. A layer of basalt lava flow known as Mashavera (1.85 ± 0.01 million years) seals the hominin and

⁷ Klein 2005: 105.

⁸ Lordkipanidze et al. 2013: fig. 3.

artefact-bearing deposits. The flow corresponds to the Olduvai palaeomagnetic subchron, and shortly after it cooled the overlying river deposits covered it.⁹ Hominins were probably attracted to the area because a lake, rich in plants and animals, and nearby river gravels with an abundance of pebbles suitable for tool production provided many of the resources they needed.

Large mammals such as sabre tooth cats, ostriches, rhinoceroses, elephants, and giraffes, assigned to the late Villanian and the Early Biharian Age (2–1.8 million years ago), roamed the lakeside, and shared their space with rodents and other small animals. Diversity is a characteristic at Dmanisi. The majority of animals appear to have derived from the cooler arctic regions rather than the palaeotropical ones, indicating that during the Plio-Pleistocene, the Caucasus was a sort of hub for fauna. Its moderately dry climate and extensive open landscapes bounded by forests obviously attracted a range of species from different regions.

Judging by the fossil bearing deposits, up to 4 m thick in parts and extending across an area of 5,000 m², Dmanisi must have been a magnet for animals and humans alike. Only 200 m² of this vast area have been excavated, but it is enough to delineate three main stratigraphic units.¹⁰ The lowest one contains volcanic ash, colluvial deposits, and river sediments. Physically, this unit is marked with hollows or lenses, containing numerous fossils of large mammals and some stone tools. All fossil hominin remains recovered to date were found here. They include whole crania as well as postcranial elements, which do not seem to have been disturbed greatly after deposition. A hard crust of groundwater carbonates characterises the middle unit (previously Level III), which covers the entire site and serves as an important stratigraphic marker. Embedded in it were faunal remains and stone tools. Such is the nature of this deposit that it sealed material located in higher levels from penetrating the lower deposits. Finally, the uppermost unit (former Level II) contains mostly colluvial pebbles, and more than 90 per cent of the total quantity of stone tools.

Quite different are the cave sites attributed to the second phase of the Lower Palaeolithic. Kudaro I and III are good examples. They are part of a cave system, with the former and more significant gallery situated above the latter. Valerii Petrovich Liubin, whose pioneering work shaped much of Palaeolithic research in the Caucasus in the last century, identified significant occupational deposits towards the bottom of a six-phase sequence. These provide an ample picture of life in the South Ossetian Mountains around 350,000 BP or a bit

⁹ In geological research these slices of time, which represent identifiable events, are sometimes referred to as a 'chronozone' or 'chron'. According to the excavators, the cooling represents a short period of time that fell between the Mashavera flow and the Olduvai-Matuyama boundary.

¹⁰ Gabunia et al. 2000b.

earlier.¹¹ Variations in the vegetation and the 90 animal species identified point to changes in climate. In the lowest layers (5b and 5v), there appears to be a change from a dry-warm climate, when the cave was first occupied, to a humid-warm and subtropical environment replete with Colchis flora. In these earliest layers, there are twice as many red deer bones as there are goats, suggesting a forested landscape. Then, to judge by the amount of goat remains in the subsequent period (layer 5a), the surrounding terrain turned harsher.

Our evidence from Azykh, a vast cave comprising a northern and southern gallery and five chambers, in the Karabakh range is not as detailed, despite a fine and deep deposit, measuring approximately 14 m in depth and divided into ten cultural layers.¹² A circular structure built of limestone slabs stacked up to 30 cm in height, augmented by deer antlers in one segment, is by far the most interesting feature. Found in the basal level of Layer V and covering an area approximately 10 m², it was dubbed the ‘dwelling’. It contained a rich ashy concentration (Hearth 3) along one side, most likely the accumulation of several hearths, whose burnt debris extended to the centre of the structure. Four other hearths were reported, all located in the dark interior of the cave some 24–30 m from the entrance, but none as large as Hearth 3. A portion of a hominin mandible found in Layer V has not been studied thoroughly enough to determine species.

Just as interesting is a cache of four bear skulls found in a fissure. It is a pity that we do not have any detailed documentation, for this feature might provide a glimpse of the ‘bear cult’, associated in some studies with the Middle Palaeolithic. Drawing on ethnographic observations of modern communities, especially in northern Eurasia, some studies have posited the notion that Palaeolithic communities worshipped bears. This is a controversial idea based not so much on the presence of bear bones as their intentional arrangement in a circle, for instance.

The Dmanisi findings have re-kindled the interest of Armenian archaeologists to look for comparable Lower Palaeolithic sites along the Lesser Caucasus, especially in the north-west corner of Armenia, where the Ararat depression meets the Aragats massif, and in the south-east, near Iran. So far the evidence consists mostly of surface collections, but the prospects are promising.¹³ Sites are scattered on river terraces and mountain slopes that are near rich obsidian sources such as Satani Dar and Eni-Ēl. Early researchers, including Jacques de

¹¹ Lioubine and Beliaeva 2004. Layer 5v, the lowest settlement, has been dated using both Thorium/Uranium (300–250 Kyr BP) and TL (360 ± 90 Kyr BP) methods; the next layer 5b has a TL date of 350 ± 70 Kyr. The more recent TL analyses are preferred, Ljubin and Bosinski 1995: 229–32.

¹² Guseinov 1985; Ljubin and Bosinski 1995: 219–24; Lioubine 2002.

¹³ Fourloubey et al. 2003: 6–8; Gasparyan 2010; Gasparyan et al. 2014a. For a history of Palaeolithic research in Armenia up to the turn of the millennium, see Gasparyan et al. 2014a: 38–42.

Morgan, identified a workshop at the former, but the unsystematic removal of finished formal tools makes it difficult to estimate how long the site was used. Dacite and basalt were also used to manufacture tools.

A cluster of sites is also located in the lower Debed River Basin, in the north-east corner, where a tool industry of pebbles and irregular, thick flakes, quite possibly pre-Acheulean, fashioned from a variety of raw materials – quartzite, limestone, felzite tuff, dacite, and andesite-dacite cores – have come to light (Figure 2.3). Another large collection of stone tools (some 5,500 pieces) was recovered from Mushakan-1, an open-air site near Erevan. According to Boris Gasparyan, about 8 per cent of the findings are Lower Palaeolithic in date, judging by their morphology. Given the density and scatter of worked stone across an area of 1.5 ha, Mushakan-1 was probably a workshop servicing local sites in the Ararat Depression.

Technological Trends

The ability to shape stone is a uniquely human trait that has defined humans as habitual toolmakers. Stone tools, no matter how rudimentary, inform not only on changing technological developments, but also by implication on the learned and shared behaviour that enables humans to adapt to their environment. Tools are often found in discrete concentrations, often in association with animal bones, which suggest campsites or even small shelters. Two lithic traditions distinguish the Lower Palaeolithic of the Caucasus: pebble choppers and flakes, and Acheulean bifaces.

OLDOWAN TECHNOLOGY AT DMANISI (GEORGIA)

Amongst the fragmentary evidence left by these pioneers are flakes and flaked pebbles, with a scatter of cores and choppers (Figure 2.2). This was a basic yet versatile toolkit, capable of slitting hides of animals, dismembering carcasses, and whittling wood into tools. It is to be distinguished from Acheulean hand axes, none of which have been recovered at the site. Their absence could mean, as the excavators argue, that the Dmanisi lithic complex belonged to the pre-Acheulean assemblages of East Africa.¹⁴ Others point out that even after Acheulean hand axes were first struck in Africa about 1.7–1.6 million years ago, not all sites in Africa and Europe contained hand axes, for reasons that are still not clear.¹⁵ These sites generally lie north of the ‘Movius Line’, which divided the occupied areas of the Old World ca. 1.7 million to 400,000 years ago into three distinct geographical regions based on stone tools.¹⁶ The Caucasus is at the boundary between the Acheulean tradition found in Africa, the Near

¹⁴ Vekua et al. 2006; Ferring et al. 2011.

¹⁵ Klein 2005: 104.

¹⁶ Sagona and Zimansky 2009: fig. 2.4.

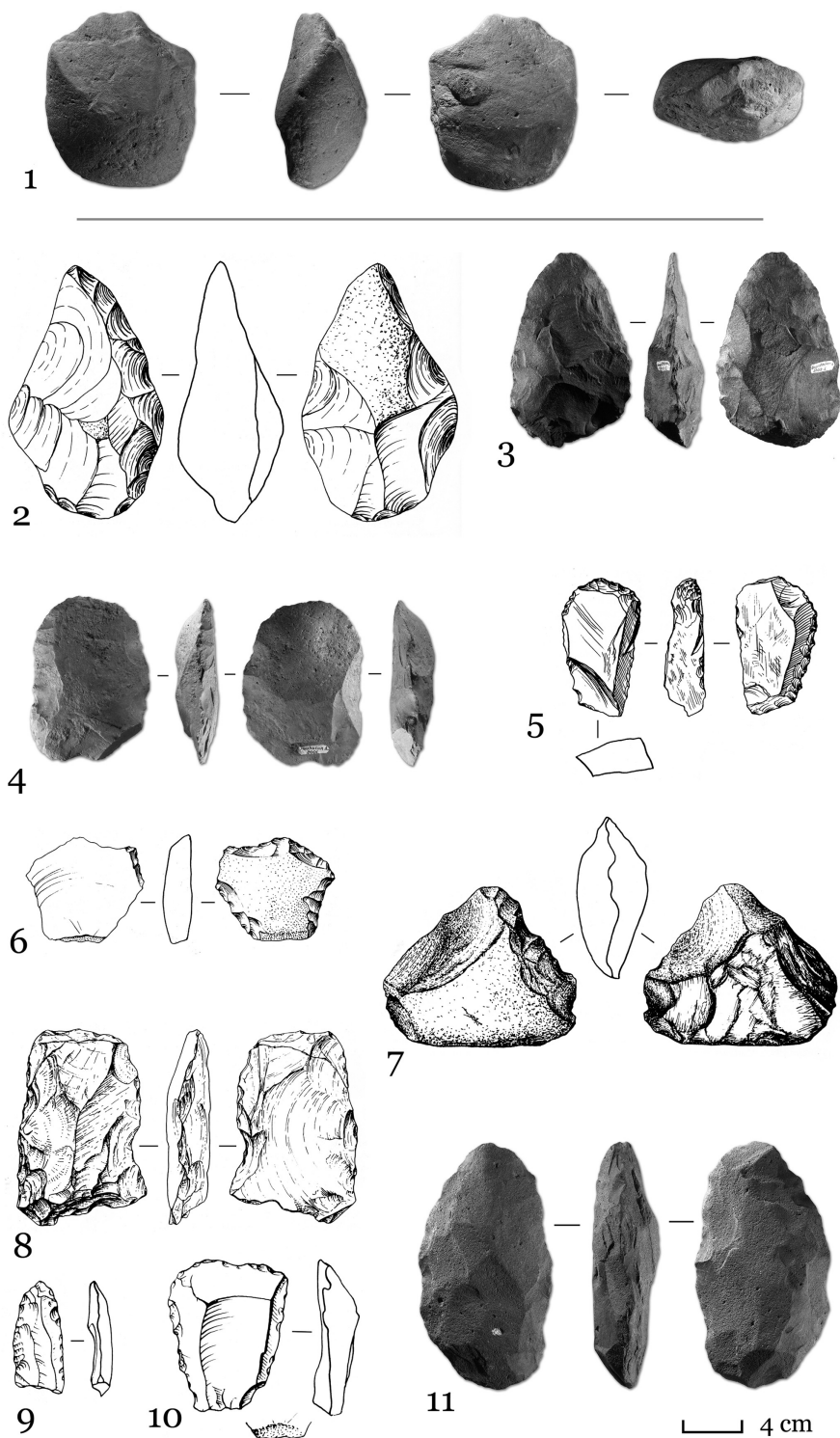


Figure 2.3. Lower Palaeolithic stone bifaces and flake tools: (2, 9, 10) from Azych VI; (6) Azych V; (5, 7, 8) Kudaro; (1, 3, 4, 11) from Armenian sites (after Ljubin and Bosinski 1995; B. Gasparyan 2010).

East, and central and Western Europe and various non-Acheulean traditions represented in south-eastern Europe and Eurasia. No patterning in typology or technology is apparent in the Dmanisi lithic industries as a whole. There are no bifaces or developed Oldowan artefacts, and no refits of flakes or tools were observed. Most of the stone tools have sharp edges, suggesting that they were fashioned and used at the site. In terms of basic knapping technique, Dmanisi lithics belong to the Oldowan (Mode 1) industry.

THE EVOLUTION OF STONE TOOL TECHNOLOGY

More than forty-five years ago, Grahame Clark proposed a relative sequence of five dominant stone technologies spanning the Lower Palaeolithic through Mesolithic.¹⁷ These five ‘modes’ were not envisioned as universal, nor synchronous. Instead, they were intended to demonstrate the progression of preponderant knapping techniques from core tools to microliths using simple terminology – Modes 1 to 5. Archaeologists have generally embraced the scheme, which has the following characteristics:

Mode 1: The Oldowan Industry, the earliest used by genus *Homo*, was fashioned from river pebbles from which conchoidal flakes were struck off one side using a hammerstone. The result was a core tool with a sharp edge and a blunt back where it was gripped. These tools belong to the Lower Palaeolithic and the earliest date ascribed to them is 2.6 million years ago.

Mode 2: The Acheulean Industry has more complex bifacial tools, the most prominent of which is the multi-purpose hand axe, which required a preconceived mental template of the end product. The first stage was to strike off large flakes from an even larger core. Then the flake would be roughly shaped into an ovoid, pear-shaped, pointed or similar form using a hammerstone. Finally, the knapper would have used a more resilient hammer to retouch the tool all over, eventually producing two convex surfaces intersecting in a sharp edge. Acheulean tools first appeared around 1.7 million years ago in Kenya and South Africa.

Mode 3: The Mousterian Industry involves several stages (*façonnage*) in the preparation of the core. This technique, known as Levallois, is hierarchical in its strategy: mass of stone-prepared core-detached and desired flake. As such, the technique created a considerable amount of waste as well as the preconceived flake detached from a striking platform. This assemblage, generally associated with the Neanderthals and the Middle Palaeolithic, represents a shift in manufacture, as well as in the conceptualisation of the end product.

¹⁷ Clarke 1969: 31. For specialist outlines see, Boëda 1995; Toth and Schick 2009.

Mode 4: The Aurignacian Industry is a toolkit of blades, the fourth technological mode. Blades are long, flat and narrow flakes that are struck off a prepared core using a punch and a hammer. The use of two tools simultaneously to produce a desired stone tool represents yet another forward step in cognition. The advantage of blades over amorphous flakes is the length of their cutting edge and their adaptability to specialised functions. Blade tools dominated the Upper Palaeolithic, though occasional examples are found in Middle Palaeolithic levels.

Mode 5: The Microlithic Industry characterised the later Upper Palaeolithic and Mesolithic. It comprised small stone tools about 1–5 cm in length that were used in composite tools, either attached obliquely to bone points or as projectile points in their own right. Microliths were either fashioned like blades from a very small core or snapped off a larger blade using a microburin.

ACHEULEAN HAND AXE TECHNOLOGY

The Dmanisi toolmakers had certainly mastered the mechanics of stone-flaking. Their sharp-edged flakes were more than adequate to scrape bones and slice through flesh. At the same time, they appear to have had little interest in shaping the core from which the flakes were detached. Removing the entire cortex from a pebble and producing a new tool with a sharp edge around the periphery, for instance, did not matter to them. This novel idea defines the next stage of prehistory and is represented by Acheulean bifaces. A glimpse of the transition between the ‘pebble culture’ and the Acheulean is possibly afforded at Azykh, though some researchers doubt whether the pebbles found in Layers VII–X were modified by hominins.¹⁸ In any case, the apparent trend is concomitant with a change in environment from deciduous forest to birch-dominated landscape.

These distinctive oval and pear-shaped hand axes, literally the cutting edge of technology for well more than 1 million years, are the most important stone industry of the Lower Palaeolithic. They are common in the southern Caucasus, especially along the Lesser Caucasus Mountains (the Dzhavakheti Plateau and northern Armenia), where they are found at scores of Palaeolithic surface sites (Figure 2.3). South Ossetia is also rich in biface tools. That these Ossetian tools are manufactured from andesite, not locally available, suggests a procurement system extended into regions further south. There are noticeably fewer Acheulean hand axes around the Black Sea region, Imereti and the Kuban, where the tools of the Lower Palaeolithic are mostly pebble choppers. Exploratory investigations at the Akhshtyrskaya Caves, near Sochi, the first cave sites to be discovered and partially excavated, were followed by more

¹⁸ Ljubin and Bosinski 1995: 220. Acheulean tools were found in Layer V (Middle Acheulean) and Layer VI (Early Acheulean).

systematic investigations in the 1950s and 1960s.¹⁹ Three cave sites in South Ossetia (Kudaro I and III and Tsona) and one in Azerbaijan (Azykh), each with undisturbed Acheulean layers, provide the best picture (Figure 2.3).²⁰

Stone tools were manufactured from locally available material – quartzite, lydite, alevrite, limestone, slate, and flint – found both as smooth pebbles and knobby nodules at outcrops. The assemblage of tools shows selectivity in stone types. Heavy-duty tools such as choppers, bifaces, and side-scrapers were knapped from quartzite pebbles, whereas flint was used for finely worked smaller tools (transversal side-scrapers), not more than 6 cm in length (Figure 2.3). The considerable scatter of hammerstones, cores and many cortical flakes indicate that tools were worked in caves.

As a technically superior tool compared to the earlier pebble choppers, what was the function of the Acheulean hand axe and did it engender any behavioural changes? Usually these handheld tools have been associated with chopping and butchering large animals, yet the large size of some examples would make them a clumsy implement. Furthermore, some do not display any signs of use, suggesting that they may have had other purposes. In a novel idea, it has been proposed that the hand axe served as a badge for an eligible male, much like conspicuous plumages in birds are important in sexual selection.²¹ A symmetrical hand axe – sharp and knapped with precision – might have had appeal to the aesthetic sensibilities of a female, signalling to her the requisite qualities for fatherhood, including skill, coordination, and persistence. Once a mate had been attracted, the hand axe would have served its function and been discarded. Similarly, we should ask why after 1.7 million years of use the hand axe was abandoned. Could it be that female preferences for male traits changed? Were there other qualities and preferences at the end of the Lower Palaeolithic that were superior models of sexual selection? We shall come to those questions later.

Diet

There was a significant shift in animal populations from the time of Dmanisi to the Acheulean cave sites. Sabre tooth cats, rhinoceroses, giraffes, and their contemporaries gave way to other large mammals, such as the now extinct Deninger's bear (*Ursus deningeri*), which comprises 85 per cent of the large mammal remains in the Kudaro III cave. Most of the bear bones belong to adults that died naturally, pointing to the seasonality and dual occupancy of the caves: bears in winter, humans in spring and summer. Where the human

¹⁹ Zamiatnin 1937. For the northern Caucasus, see Doronichev 2000, 2008; Golovanova 2000; Doronichev and Golovanova 2003.

²⁰ For synoptic overviews of these earlier excavations and accompanying bibliographies, see Liubin 1984, 1989.

²¹ Kohn and Mithen 1999.

residents went in winter we are not quite sure. Certainly when they were at Kudaro they ate well. Their kitchen was quite varied and lavish. In addition to venison, the community consumed different types of birds, but favoured only one fish – Black Sea salmon (*Salmo trutta labrax*), which accounted for all the 50,000 fishbones recovered. Other fish, including the many species of Black Sea shad, clearly did not suit the local palate.

THE GREAT DIVIDE: THE CAUCASUS IN THE MIDDLE PALAEOLITHIC (150,000–35,000 BC)

The transition from the Lower to Middle Palaeolithic (ca. 400,000–200,000 BP) is a watershed interlude of global significance in palaeoanthropology.

In Europe and the Near East, this stretch of prehistory witnessed the rise of a new hominin species, *Homo neanderthalensis*, the Neanderthals, who survived up to about 40,000 years ago.²² Their story is a long, complex, and controversial one, clouded in the popular imagination by the powerful and persistent nineteenth-century representation of a shambolic brute.²³ With physical traits such as heavy brows, thick bones and musculature, and tendencies to degenerative joint disorders, Neanderthals have been described frequently and unfairly as brutish individuals in possession of little intelligence. Scientists today, however, see them in a vastly different light. Rugged, to be sure, Neanderthals had a physiognomy that reflected the many demanding tasks they performed, but they also possessed many remarkable skills that enabled them to survive the vagaries of the harsh and oscillating climatic conditions of the later Middle and Upper Pleistocene.

Neanderthals were inventive enough to produce a new technique for the production of stone tools, the disc-core technique, also known as Levallois (Mode 3). This fundamental shift in tool production brought an end to bifacial (Acheulean) hand axes and introduced tools made from predetermined flakes. This technological change from core to flake tools signposts a major jump in the conceptual abilities of human populations. The cleverness of the Neanderthals extended to other areas. They wore clothing, built fires, gathered in settlements, hafted some of their tools and were skilful hunters of reindeer and mammoths.²⁴ They had to be, for there was little vegetation on the cold tundra. Neanderthals showed other human qualities. They were the first to bury their dead deliberately. The sprinkling of red ochre over the corpse and simple grave provisions placed in the pit grave, also reflect tenderness. Yet Neanderthals also showed a streak of violence that could despatch their enemies swiftly and decisively.

²² Higham et al. 2014.

²³ Trinkaus and Shipman 1993.

²⁴ On controlled fire in the Palaeolithic, see Twomey 2013.

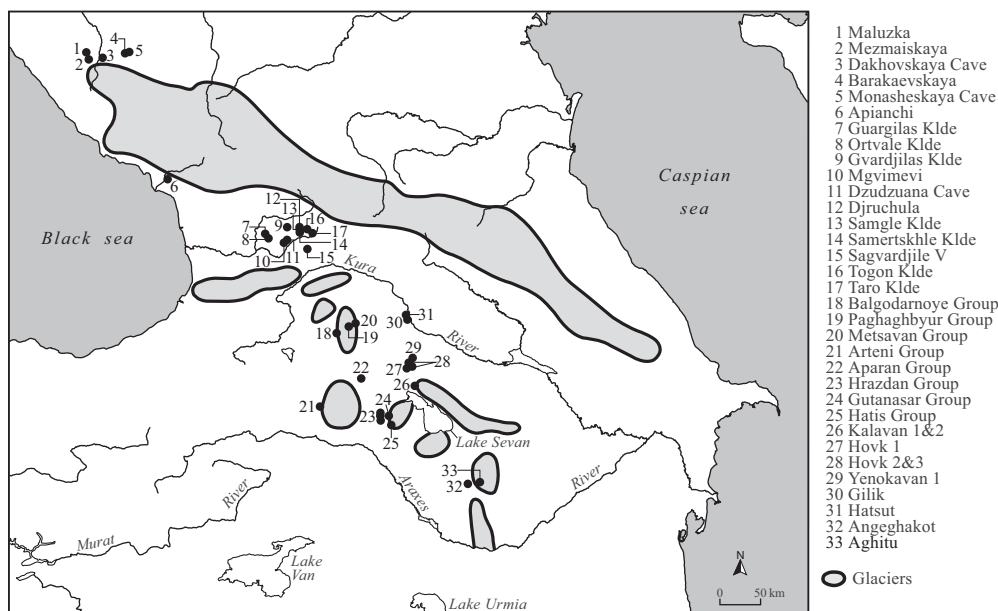


Figure 2.4. Map showing the key Middle and Upper Palaeolithic sites in the Caucasus, and the extent of the glaciers (after Liubin 1989, drawn by C. Jayasuriya).

Neanderthal communities settled in the Caucasus (Figure 2.4), as they did in many areas from the edge of Western Europe to the steppes of Central Asia. During the Middle Palaeolithic, the Caucasus and northern Europe experienced the same climatic changes.²⁵ The European data broadly correspond with the palynological information collected from several archaeological sites, such as Matuzka Cave (the northern Caucasus) and Ortvale Cave (the southern Caucasus), which suggest that the landscape of the Caucasus fluctuated between deciduous woodlands, periglacial meadow-steppe environments, and coniferous forests, depending on the climate and altitude.

In the Caucasus, we are fortunate to have a snapshot of this critical period between the Lower and Middle Palaeolithic. Recent excavations at Nor Geghi 1, Armenia, discovered in 2008, have revealed a unique assemblage of bifacial and Levallois technology, with the latter displaying typical characteristics such as Quina retouch (Figure 2.5 (1,2)).²⁶ Cultural debris was stratified within five units laid over approximately 150,000 years (ca. 308,000 ± 3,000 for top of Unit 1, and 441,000 ± 6,000 for the lower basalt deposit). All the stone tools at Nor Geghi 1 were struck from obsidian cores obtained mostly from the

²⁵ In palaeoclimatic terms this period runs from OIS 5e (130/126,000–118/115,000 BP) when glaciers retreated through OIS 5d–a (Early Glacial period, ca. 118/115,000–74,000 BP), and OIS 4 (75/71,000–60/58,000 BP) when the ice age was harshest, to OIS 3 (60/58,000–28/25,000 BP), a period of relatively mild climates.

²⁶ Adler et al. 2014. For an overview of the Armenia Middle Palaeolithic, see Gasparyan et al. 2014b.

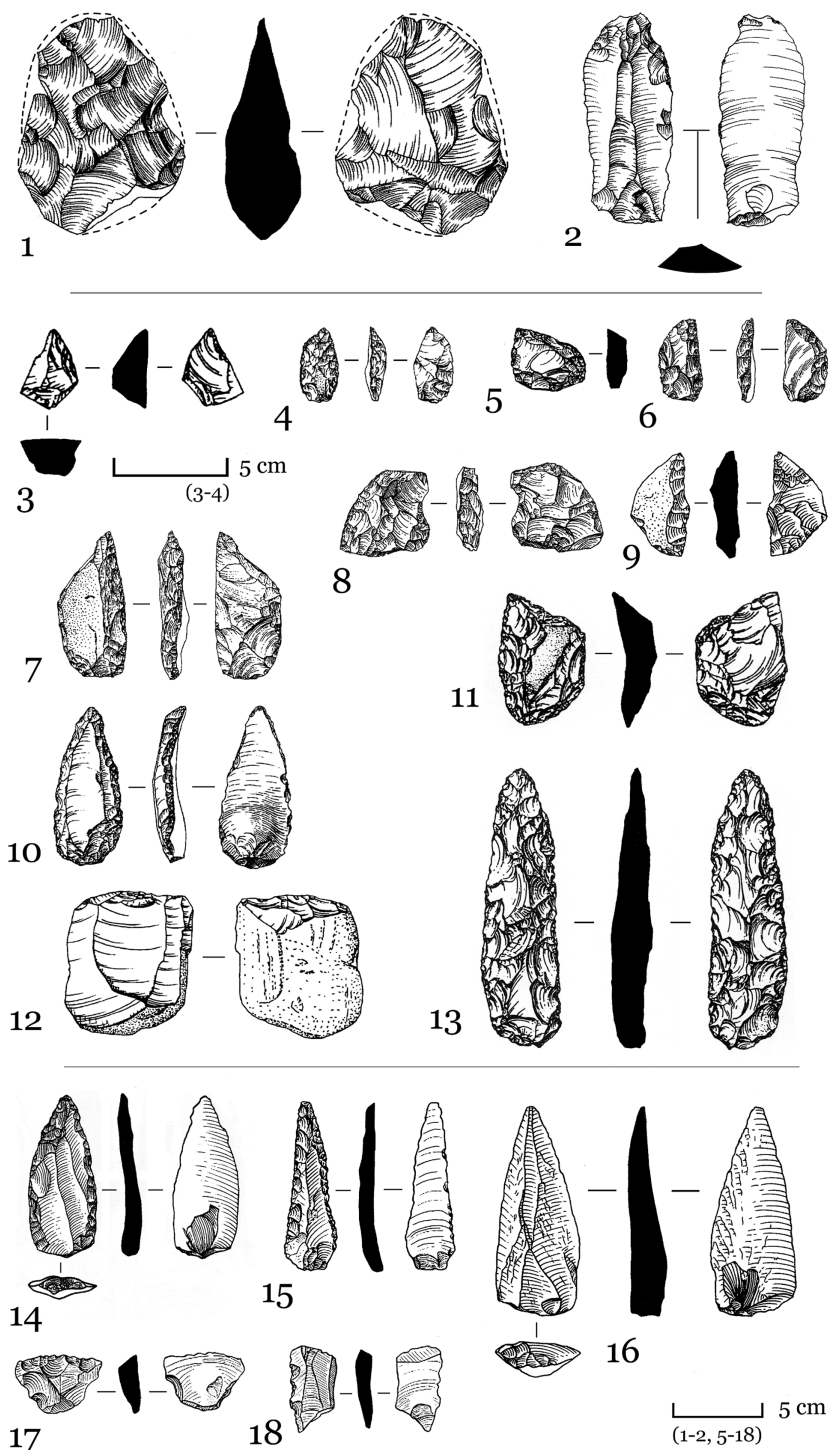


Figure 2.5. Mousterian stone tools: Transition – **(1, 2)** from Nor Geghi 1 (after Gasparyan et al. 2014b); the northern Caucasus – **(3, 10–13)** from Matuzka cave; **(4, 6, 7)** Mezmaiskaya cave; **(8)** Il'sakia; **(5, 9)** Micoquian sites in the northern Caucasus (after Golovanova and Doronichev 2003); the southern Caucasus – **(14–16)** from Bagratashen 1 (after Gasparyan et al. 2014b); **(17–18)** Ortavale Klde Layer 10 (after Adler and Tushabramishvili 2004).

source at Gutanasar (97 per cent of the total), located 2–8 km to the north-east. Other sources were further afield, such as Hatis, Pok Arteni, and Pok Sevkar. Toolmaking and re-sharpening, however, was a home-based activity, not one carried out at the sources.

How, then, should one interpret this combination of technologies? It could be argued that Nor Geghi 1 was the seasonal home of different population groups practising different modes of stone tool production. This would not, however, agree with the compelling hypothesis, based on wide-ranging data from Africa and Eurasia, that Late Acheulean populations were technologically adaptable. That is to say, Levallois technology was not in itself a sharp and abrupt breakthrough, but rather emerged from the Late Acheulean tradition as a conflation of diverse lithic traditions shared by different communities. This second hypothesis calls into question the notion that Levallois technology spread from a single point of origin and that it was spread by a clearly defined hominin group. Instead, it argues for an evolutionary process across a vast area, Armenia included, whereby human populations adapted to their new environments, sharing ideas and changing their behaviour. The eventual result of this process was the dominance and ubiquity of Levallois technology, pointing to its adoption by anatomically different hominin groups who lived in vastly different environments.²⁷

Even a quick glance at the distribution of known Middle Palaeolithic sites in the Caucasus (Figure 2.4), numbering close to 300, will reveal a striking asymmetry. Most sites in both the northern and southern Caucasus are found in the western half of the region, with only a few poor surface scatters in Dagestan representing the eastern side. This is not an artificial pattern reflecting an absence of fieldwork in the eastern territories, but rather a clear preference for the regions around the Black Sea. It seems, then, that the boundary for Middle Palaeolithic settlement in the Caucasus is an oblique line running from the Terek River to the Kura-Alazani confluence.²⁸

Until recently, most researchers followed Liubin in correlating the Caucasian Middle Palaeolithic stone tool industries and the subsistence strategies of their makers with the well-known French sequences.²⁹ For that reason many assemblages from the Caucasus were attributed to the Typical Mousterian or Denticulate Mousterian with each category displaying Levallois

²⁷ Levallois technology dominated the OIS 8 to OIS 3 periods. A multitude of cores from deep-sea sediments and stratified ice sheets provide the most nuanced guide to global climatic oscillations. The isotope timeline is expressed either as Oxygen Isotope Stages (OIS) or Marine Isotope Stages (MIE). Some 104 stages extending back 2.614 million years ago have been identified. For OIS dates see Lisiecki and Raymo 2005, whereas the MIS boundaries can be found at www.lorraine-lisiecki.com. Slightly different absolute dates are given in Aitken and Stokes 1997, and Wright 2000.

²⁸ Golovanova and Doronichev 2003; Adler and Tushabramishvili 2004: 100.

²⁹ Liubin 1977, 1989.

and non-Levallois elements. It now seems clear, however, there are differences between the assemblages from the northern and the southern Caucasus, which reflect central European and Near Eastern characteristics respectively.

According to Liubov Golovanova and Vladimir Doronichev, three broad cultural divisions incorporating several geographical clusters can be discerned for the Middle Palaeolithic of the Caucasus:³⁰

- (a) The first is located in the north-western Caucasus, especially in the Kuban River basin. Key excavated sites include Matuzka Cave and Mezmaiskaya Cave, sequences have been found at Il'skaya 1, Il'skaya 2, and Baranakha 4 open-air sites, Monasheskaya Cave, Barakaevskaia Cave, and Gubs rock shelter 1. Other sites have been excavated, but most of the approximately eighty locations that have been recorded are surface scatters. Culturally, many of these north-west Caucasian sites represent a local variant of the East Micoquian industry (ca. 130,000–70,000 BP), an early Middle Palaeolithic lithic industry distinguished by asymmetrical bifaces, and are associated with the hunting of steppe bison.
- (b) The southern foothills of the Caucasus comprise the second group. This is the largest concentration, and most are located in Georgia, where some 200 limestone caves and rock shelters are known.³¹ Geographically, there is one cluster in Abkhazia to the west and another in the central region of Imeretia and southern Ossetia, especially in the Rioni basin. Ortvale Klde, Djruchula Klde, and Tsona Klde belong to this group and are the most informative sites in the southern Caucasus, owing to the new methods employed in recent investigations. These south Caucasian assemblages resemble the Levantine and Karain (south Anatolian) Mousterian industries, but they display local attributes, too. Subsistence strategies are quite diverse, routinely featuring both carnivore and non-carnivore animal bones, though the cave bear, *Ursus spelaeus*, is the most prominent.
- (c) The third group is made up of sites scattered along the high volcanic ridges that run from the Javakheti region of southern Georgia and northern Armenia to western Azerbaijan. Notable sites include Hovk 1, Kalavan 2, Lusakert 1 and Yerevan 1, all located in Armenia.³² Their lithics reveal a high percentage of truncated and faceted Mousterian tools, resembling those in the Zagros Mountains. These hunters preyed on ungulates that roamed the arid grass and forest environments.

Although this tripartite scheme provides some accurate observations, it is nonetheless a picture composed of broad brushstrokes and lacks nuances that

³⁰ Golovanova and Doronichev 2003.

³¹ Tushabramishvili et al. 1999: 65.

³² Gasparyan et al 2014b.

only a problem-oriented project and precisely excavated sites can offer. In relation to the southern Caucasus, but equally applicable to the northern regions, Daniel Adler and Nikolos Tushabramishvili explain the cultural areas sketched by Golovanova and Doronichev as ‘a) diachronic change; b) adaptation to specific environmental or topographical conditions; c) changes in climate and/or resource availability; d) the diffusion of people, ideas or technology; or e) poor sampling of the archaeological record’.³³ To better understand which of these is the best fit, let us turn to some of the more precisely documented sequences.

Matuzka Cave and Mezmaiskaya Cave – Mousterian Sites

These two sequences serve as perfect entry points into a discussion of Middle Palaeolithic settlement and subsistence in the northern Caucasus. Matuzka Cave is a karst cavity and covers an area of approximately 900 m².³⁴ Its 4 m deposit has twelve stratified layers that are grouped into three horizons: Upper (strata 3a–c and 4a–d), dated to the Late Glacial (OIS 4–3), confirmed by the cold-environment plants and animals; Middle (strata 5, 5a, 5b, 6, and upper strata 7); and Lower (lower part of stratum 7, strata 8, and 8a) – Layer 7 is chronologically assigned to OIS 5e. Interestingly, cave bear (*Ursus deningeri kudarensis*) bones are the most common of the medium and large mammals. Yet, like the ungulate remains, they do not carry any signs of butchery, suggesting that the animals may have died of natural causes in the cave during hibernation.³⁵ Although we are not clear on the purpose of the site, it seems to have had dual occupancy – hibernating cave bears in the winter and humans during the warmer months. This situation recalls Yarımburgaz Cave in Anatolia.³⁶ Where the Matuzka went in the colder months is unclear.

Higher up the mountains (1,310 m asl) is nearby Mezmaiskaya Cave, discovered in 1987 and best known for its infant burial, from which scientists have recovered ancient DNA.³⁷ Ultra-filtered collagen extracted from the infant produced a date of 39,000 ± 1,100 BP, which is in line with others from western Eurasia and suggests that the demise of Neanderthals was swift.³⁸ It also argues against the hypothesis of Neanderthal survivals in the Caucasus, or a protracted period of 10,000 years of co-existence between them and anatomically modern humans.

³³ Adler and Tushabramishvili 2004: 96.

³⁴ Baryshnikov and Hoffecker 1994; Hoffecker and Cleghorn 2000; Golovanova and Doronichev 2003.

³⁵ Hoffecker and Cleghorn 2000.

³⁶ Sagona and Zimansky 2009: 13.

³⁷ Baryshnikov and Hoffecker 1994; Baryshnikov et al. 1996; Golovanova et al. 1999; Ovchinnikov et al. 2000; Golovanova and Doronichev 2003.

³⁸ Pinhasi et al. 2011.

Mezmaiskaya Cave was created through erosion in Layer 4, one of twenty-three geological strata, and was occupied soon after by humans, on and off for some 14,000 years (32,230–46,000 years BP).³⁹ Their new home had a blocky limestone floor covered with many scattered stalactite fragments that had snapped off during the cave's formation. It must not have been the easiest place in which to move around, and looking out from the entrance the occupants would have seen a grassy landscape mostly devoid of trees. Bones found within the cave show that mostly steppe bison, sheep and goat were hunted, though the family also had a taste for red deer; other faunal remains include cave bear, marmot, and wild ass. Most of the bones were well preserved with few signs of weathering, but displaying both cut marks and carnivore gnawing. Hunting patterns suggest the community preferred adult animals, though they did not discriminate in the case of sheep and goats. The lack of juvenile bison bones perhaps indicates these animals were targeted individually rather than as part of a herd. Animal taxa found at other Mousterian sites (Figure 2.6) emphasise the diversity. Broadly speaking, the chronometric sequence at Mezmaiskaya Cave tallies with that from Ortvale Klde, in the southern Caucasus (see following discussion).

Although the stone tool assemblages from Mousterian sites in the northern Caucasus can be small – only 166 artefacts were found at Matuzka Cave – they are nonetheless distinctive (Figure 2.5 (3–13)). In terms of their technology and typology, they belong to the East Micoquian, an industry including impressively crafted bifacial tools such as leaf-like projectile points for spears, small broad triangular hand axes, and side-scrapers or knives. In the later periods, bifacial tools are rare, and instead we see ventral and/or dorsal thinning. Most common are simple side-scrapers and convergent tools, found throughout the Middle Palaeolithic and accounting for more than a half of the toolkits. Side-scrapers come in a variety of types, including the so-called *déjeté* variety (a heavily reduced scraper also known as a skewed convergent scraper).

THE SOUTHERN CAUCASUS

The southern Caucasus offers a different picture. With glaciated passes blocking human mobility northward, the isthmus has been aptly referred to as a cul-de-sac during the Middle Palaeolithic.⁴⁰ That the region boasts such a large number of Palaeolithic sites is no doubt due in part to its geographic location – the end of the road – but equally to the favourable nature of its landscape. Even during the severe conditions of the Pleistocene, Georgia, in particular, had a natural setting and resources that would have attracted communities to the area. Sheltered from the strong impact of glaciation by the mountains,

³⁹ Within its 5 m-deep deposit of clay and pebbles, consisting of three Holocene and twenty Pleistocene strata, Layers 2, 2A, 2B1–4 and 3 belong to the Middle Palaeolithic. Above these were Upper Palaeolithic deposits (Layers 1A–C from top to bottom).

⁴⁰ Adler et al. 2006b: 165.

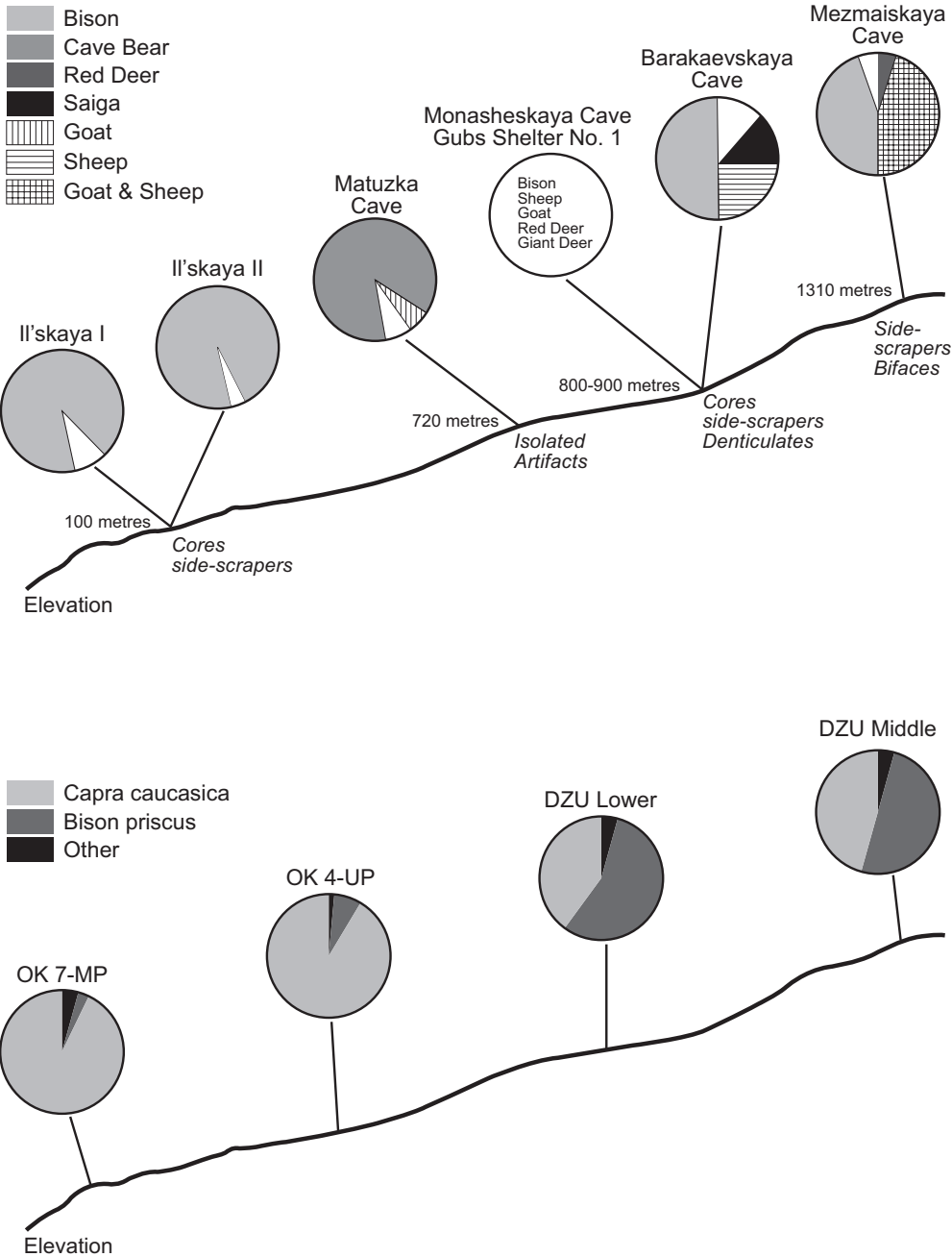


Figure 2.6. Mousterian sites of the north-western Caucasus, showing their overall composition of mammal remains, their elevation above mean sea level, and principal stone artefact types (after Hoffecker and Cleghorn 2000, drawn by C. Jayasuriya).

the regions immediately south of the range, such as Imeretia, enjoyed a mild climate during the Upper Pleistocene. Furthermore, its dissected geography, endowed with an abundance of high-quality flint and wood resources, also promoted a patchwork of ecological niches, home to a diversity of sub-Alpine plants and animals. These incentives no doubt explain, in part, the intense settlement of Imeretia during the Palaeolithic, and why local communities appear to have shaped their own distinctive trajectories. The most informative Middle Palaeolithic sites are located within the basin of the Rioni-Kvirila river system and include Djruchula Klde, Ortvale Klde rock shelter and caves of the Tsutskhvari multi-stage complex. Reliable sequences from Armenia are only just emerging, with Hovk 1, one of a series of sites located in the Aghstev River valley, having the most detailed evidence.

Ortvale Klde

Ortvale Klde, a karst rock shelter, provides the most detailed information for the Upper Pleistocene in the southern Caucasus. This cave is twin-chambered and relatively spacious. Plus it offered its occupants an eastward vista, overlooking the narrow river valley of the Cherula 35 m below.⁴¹ A sizeable community lived at the site intermittently but intensely for about 40,000 years from the Middle Palaeolithic (Layers 5–10, 150,000–35,000 BP) to the Upper Palaeolithic (Layers 2–4, ca. 35,000–21,000 BP). Mealtimes would have included plenty of goat (*Capra caucasica*) with some large red deer (*Cervus elaphus*) and steppe bison (*Bison priscus*). The sheer quantity of goat bones (85 per cent of the animal remains) is curious, given that in the southern Caucasus faunal assemblages comprise mostly cave bear (*Ursus spelaeus*). This peculiarity could reflect the site's position within a narrow valley, attractive to mountain goats, but perhaps not fulfilling the requirements of a suitable lair for bears during hibernation. It may also indicate that Ortvale Klde was a seasonal site, occupied during the late autumn or winter when the herds descended from high altitude.⁴²

In preparation for hunting forays, flint was collected from local sources, but the debitage and evidence for recycling of tools suggest it was used thriftily. A dense concentration of more than 20,000 stone artefacts from Layers 5–7 collected from a 5-m² trench is one clue pointing to the intensity of occupation. The presence of obsidian pieces, originally sourced from the Chikiani deposits in the Javakheti region, some 150 km away as the crow flies, indicates that a network of raw material procurement was in place. Convergent scrapers fashioned using the Levallois technique are common, but blades and utilised expedient flakes also feature richly (Figure 2.5 (17–18)). Judging by the variation in debitage size and the uniformity of retouched tools, it appears that

⁴¹ Adler and Tushabramishvili 2004; Bar-Oz et al. 2004; Adler et al. 2006a; Adler et al. 2006b.

⁴² Heptner et al. 1989 for the seasonal patterns of the Caucasian goat.

blanks, possibly of varying forms, were worked to a predetermined and specific shape. Cores were heavily reduced and tools were also re-sharpened and recycled, especially in the latest level (Layer 5), suggesting that flint was valued and effectively consumed. It might also suggest that social barriers prevented continued access to flint sources. All these traits are also exhibited by stone tool traditions from sites in the Zagros and Taurus Mountains.

Lithics from Layer 5, assigned to the latest Middle Palaeolithic, reveal differences. The manner by which they were struck is in keeping with earlier reduction practices, but their weathered appearance is notable, a trait presumably gained by exposure to harsh conditions. This patina exhibited by many stone tools and the matrix within which they were found have been attributed to freezing conditions around 35,000 BP, when the frequency of occupation dropped, also indicated by a decline in the amount of burned material. Re-settlement of the site by an Upper Palaeolithic community, bearers of an entirely different tradition, occurred at the start of the Denekamp interstadial, which corresponds to Ortvale Klde Layer 4.

Djruchula Klde

Djruchula Klde appears to have been a workshop in its early days. Its two archaeological layers (1 and 2, top to bottom) have lithic and faunal assemblages that suggest it was occupied for short periods to perform specific tasks such as the reduction of local flint and argillite resources.⁴³ Layer 2, for instance, has a small assemblage (2,979 artefacts) of a non-Levallois repertoire with an abundance of flaking debris (70 per cent) and scrapers. The large amount of reduction debris indicates that tools were struck and fashioned in the cave in preparation for the hunt.

Layer 1 has a different character. Large elongated blanks, often 8 cm or longer, also crafted from flint and argillite, show very few signs they were manufactured in the cave. Sixty-five per cent of the total were lightly retouched into points, with only a small number (1,528) of cores, flaking debris, and cortical pieces, suggesting that in Layer 1 the occupants were supplied with finished tools and blanks. The differences between the finds from Layer 2 and Layer 1 are related directly to mobility and site-use behaviour. They suggest that the function of the cave shifted from more intermittent and generalised usage (Layer 2), as indicated by the great percentage of chipping debris, to a more transient and task-specific purpose (Layer 1), when the hunters came ready armed and used the cave as a point of departure for hunting raids. It is difficult to suggest what prompted this shift in site use, but the prevalence of wetter conditions during the period of Layer 1 may be the reason. In any case, some sort of shift is also reflected in animal bones. Bears (*Ursus spelaeus*) are

⁴³ Meignen and Tushabramishvili 2006.

common in Layer 2, but whether they are the remains of individuals who died during hibernation, or were hunted, butchered, and consumed on-site is difficult to say. In the latest period, bison (*Bos priscus*), aurochs (*Bos primigenius*), and red deer (*Cervus elaphus*) were hunted.

A similar lithic tradition has been found at the Armenian site of Hovk 1 Cave, a high altitude site perched 2,040 m above sea level, well above the snow line in the Lesser Caucasus.⁴⁴ In this narrow cave, no more than 3 m wide, stone tools began to appear in Unit 10, overlying the basal level (Unit 11). But, so far, the earliest tools published are the four early Mousterian tools found in Unit 8, dated to $104,000 \pm 9,800$ BP (uncal.). Hovk 1 tools like those from Djruchula Klde are mostly Levallois points and blanks, reflecting the same unidirectional reduction techniques, with only a small quantity of debitage and cores. The tools were struck from local materials and show few traces of distant resources such as obsidian and high-quality flint. Similar techno-typological collections have been found at the Georgian sites of Kudaro I and III, and Tsona. Beyond the southern Caucasus, Djruchula Klde and Hovk 1 (Unit 8) have stone tools that would be at home in the Levantine region, as a comparison with the collections from the early Middle Palaeolithic of the Levant (Tabun D, Hayonim Cave E, Abu Sif, and Hummal) will make clear.⁴⁵

Other sites

The 18-m deposit at Tsona Cave incorporates 5–6 m of Middle Palaeolithic. Technologically, the stone tools comprise both non-Levallois and Mousterian reduction methods. Denticulates and convergent scrapers constituted the majority of formal shapes, and are redolent of the assemblages from the Zagros. Evidence of the entire cycle of stone tool manufacture – procurement, reduction, use, and disposal – has been found in Tsona Cave. This lithic evidence, together with the considerable burned material and associated hearths, again points to intense occupation.

There are no surprises in the preferred animals. The greatest number of identifiable bones (80 per cent) belong to steppe bison (*Bison priscus*), followed by goats/tur (*Capra caucasica*) at 10 per cent. The high frequency of bison bones may indicate that the Tsutskhvati hunters occupied the site when the bison sought highland pastures in early spring or summer.⁴⁶ Cave bear remains, *Ursus spelaeus*, common at other sites in the Caucasus, were scattered in all the archaeological layers, but are not the dominant species. Noteworthy are a number of bear skulls discovered in the Upper Cave (Level XI) that may indicate the seasonal use of the site by both bears and humans. Because

⁴⁴ Pinhasi et al. 2008.

⁴⁵ Beliaeva and Lioubine 1998.

⁴⁶ Heptner et al. 1989.

no chronometric results are available yet for Tsona Cave, its relationship to Ortvale Klde and Djruchula Klde cannot be established.

For the Middle–Upper Palaeolithic boundary we need to look to Armenia, where Hovk 1 provides some sketchy information (Figure 2.7). The prominence of cave bear (Unit 6), some showing traces of carnivore gnaw marks, shifted to a preference for Caucasian tur (Units 5–4). These units belong to the Upper Palaeolithic, with Unit 5 yielding an uncalibrated radiocarbon date of $33,800 \pm 500$ BP for a deposit characterised by microlithic flakes of flint and obsidian. Kalavan 2 also elucidates the Middle–Upper Palaeolithic boundary. Represented by an abundance of typical Mousterian points and borers, and the bones of steppe bison, it can be placed at the end of the Middle Palaeolithic according to its AMS date of $34,2000 \pm 360$ BP (uncal).

Other Armenian sites of note are the caves of Yerevan 1 (Layers 3, 4 and 7), Lusakert 1 (Layer 4, originally C2), and Aghavnatun 1, where river action has cut through beds of tuff, exposing cultural debris.⁴⁷ Yerevan 1 has a difficult sequence to interpret, with a mixture of material at the Middle–Upper Palaeolithic boundary, but Lusakert 1 has a primarily non-Levallois Mousterian assemblage. The surface material from Aghavnatun 1 is interesting for both its range and connections. Situated on the Vorotan River in the highlands of Syunik in south-eastern Armenia, it displays the exploitation of a variety of local raw materials – obsidian, chalcedony, and basalt – and a heavy reduction process, indicating the toolmakers were careful with their raw materials. The hallmark of the collection is the small, so-called Yerevan points. Symmetrical and approximating a triangle, with pronounced retouch especially around the butt, these late Middle Palaeolithic stone tools from Armenia, have been referred to as ‘micro-Mousterian’, a term used to describe the general character of Mousterian lithics from Anatolia, the southern Caucasus and central Asia.⁴⁸ This southern techno-complex is at home in the Zagros-Taurus arc, where the Karain Cave draws an obvious connection, and is different to the Micoquian lithics that characterise the northern Caucasus.

The Demise of the Neanderthals and the End of the Middle Palaeolithic

The end of the Middle Palaeolithic is synonymous with one of the most absorbing debates in prehistoric archaeology in recent times; namely, the demise of the Neanderthals and the global migration of *Homo sapiens*. In Eurasia, this Middle–Upper Palaeolithic boundary is generally placed between 45,000 and 30,000 BP, but more direct dating of Neanderthal fossils using improved techniques suggests that in the Caucasus the last Neanderthals died around

⁴⁷ See Fourloubey et al. 2003: 8–16 for a re-analysis of the early sequences at Yerevan 1 and Lusakert 1; Liagre et al. 2006 (Aghavnatun 1).

⁴⁸ Liagre et al. 2006: 13, n. 9.

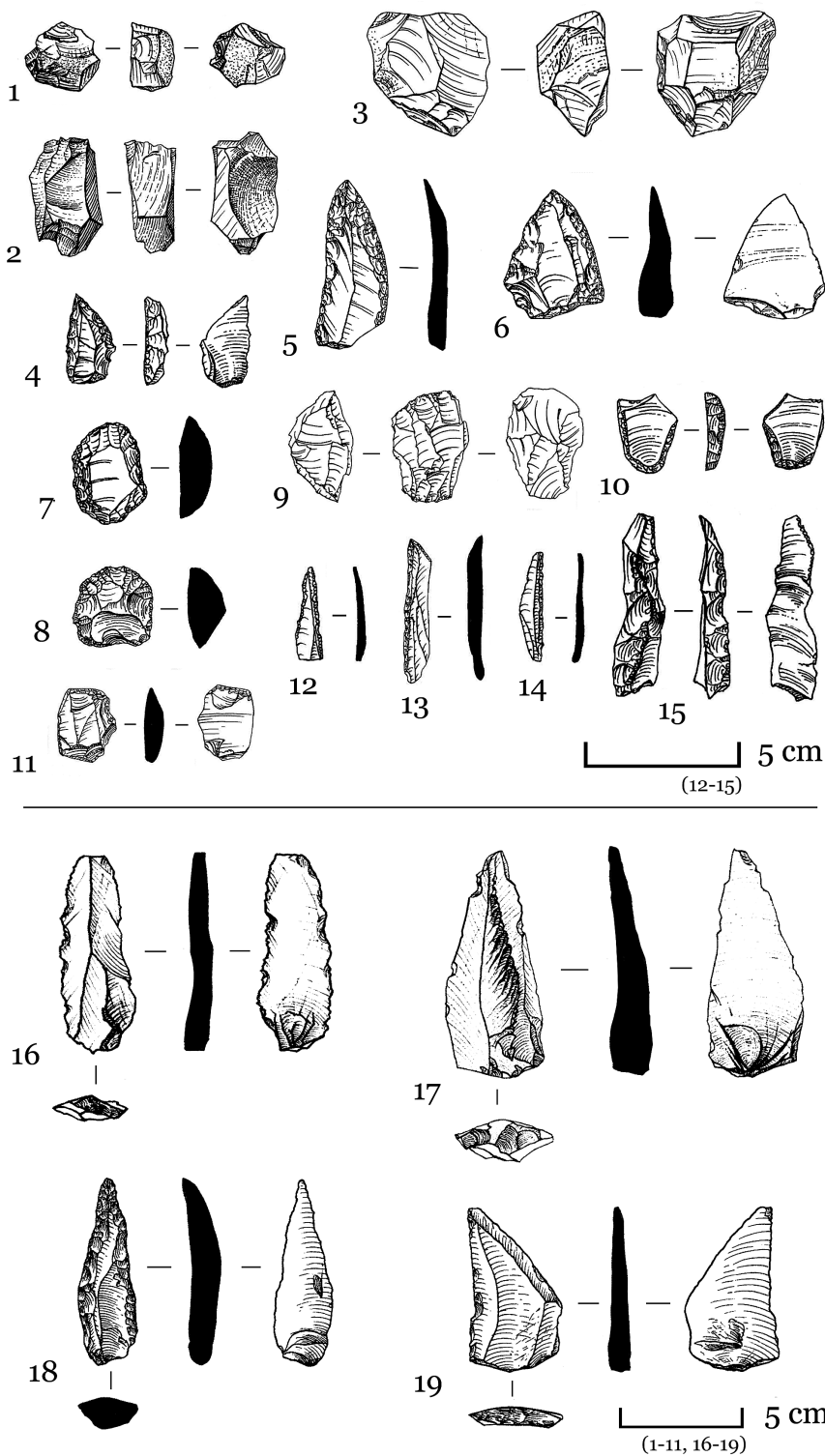


Figure 2.7. Stone tools from the Middle-Upper Palaeolithic boundary: **(1–15)** from Mezmaiskaya Cave, the northern Caucasus (after Golovanova et al. 2010); **(16–19)** Hovk-1 Caves, the southern Caucasus (Gasparyan et al. 2014b).

39,000 years ago. The interaction between these two population groups and the question of whether modern humans influenced the end of the Neanderthals has emerged as one of the most controversial issues in Palaeolithic archaeology. It is generally accepted that in Western Europe, Neanderthals made the Middle Palaeolithic assemblages typified by the Levallois technique of reduction, whereas the arrival of *Homo sapiens sapiens* is associated with the Aurignacian tradition.

Elsewhere this ‘transitional’ period has a distinct characteristic with elements that are not necessarily Aurignacian. Traditional approaches, based on lithic studies and settlement pattern analysis, have been greatly enhanced in recent years through information derived from molecular biology and a re-conceptualisation of hominin behaviour as part of a social (rather than functional or economic) realm. The idea that different peoples in the Palaeolithic constructed social landscapes replete with their culturally mediated expressions has provided new pathways by which to interpret remote prehistory.⁴⁹ Just as important is the scrutiny of the notion of ‘transitions’ in the Palaeolithic, prompting us to reframe our thinking on the above issues.⁵⁰

Two developments require discussion. First are the great advances made in genetics that have established the sequencing of the Neanderthal genome, enabling us to determine whether or not Middle Palaeolithic populations (Neanderthals) interbred with the immigrant groups of anatomically modern humans, representatives of the Upper Palaeolithic tradition. Then we have to consider the reframing of Neanderthal behaviour. For a long time disparaged as not quite human in the modern sense, Neanderthals have been vindicated in recent years by showing that their abilities were quite complex and diverse. But the degree to which Neanderthals were truly human continues to be robustly debated.

One of the earliest and most significant contributions to Neanderthal genome research was the sequencing, announced in 2000, from a 29,000 year old Neanderthal child found in Mezmaiskaya Cave.⁵¹ The results from the Mezmaiskaya Cave fossil more or less confirmed the earlier sequence derived from the Feldhofer Neanderthal, in Germany, which indicated that Neanderthals were genetically distinct from modern humans. Since then, researchers have been able to obtain a complete draft sequence of Neanderthal mtDNA.⁵² This genetic evidence has clarified the relationship between modern humans and Neanderthals, and informed on Neanderthal population size. Significantly, it has shown that Neanderthals were unlikely to have contributed substantially to the modern human genome (1–4 per cent). To complicate

⁴⁹ Gamble 1999.

⁵⁰ Camps and Chauhan 2009.

⁵¹ Ovchinnikov et al. 2000. See now, Higham et al. 2014.

⁵² Green et al. 2010.

matters, it seems that interbreeding occurred between Neanderthals and non-African modern humans.

These findings have put to rest, in the strictest sense, the long debated hypothesis that argued for modern humans replacing archaic populations of Neanderthals without any interbreeding. Even so, the majority of our genome still derives from Africa. Genetics has contributed another important piece to the picture. It has shown that the Neanderthal ancestry had large number of non-synonymous amino acid changes, which means that it is possible Neanderthals had a small population size. Although populations are always notoriously difficult to estimate, the total number of Neanderthals in Eurasia has been placed between one and two million individuals. In contrast to the Mezmaiskaya Cave child, the southern Caucasus has yielded just a few scattered teeth from Ortvale Klde, Djruchula Klde and Tsona Klde, as well as a partial jaw from Sakajia Cave.⁵³

The re-thinking of Neanderthal behaviour, specifically their hunting tactics, has also benefited from recent investigations in the Caucasus.⁵⁴ By examining animal bones as remnants of cultural behaviour (a zooarchaeological perspective) as opposed to tabulating species (the palaeontological approach), the Ortvale Klde researchers have concluded that Neanderthals and the subsequent Upper Palaeolithic groups had identical methods of hunting their prey.⁵⁵ In the absence of human fossils, the Upper Palaeolithic community that occupied Ortvale Klde is assumed to be modern because of the stone tools they left behind in Layer 4 upwards – unidirectional blade cores, blades fashioned into end-scrapers, burins, and, importantly, bone/antler implements, completely absent from the Middle Palaeolithic toolkit.

Essentially, then, both groups at Ortvale Klde independently developed complex strategies for procuring resources, whether animal or stone, based on their respective social organisation and planning techniques. These conclusions are largely based on the analysis of the faunal assemblage and a reinterpretation of lithic assemblages. Noteworthy, for instance, is the similarity between the taphonomic records of the bones discarded by the hunters of the late Middle Palaeolithic and of the early Upper Palaeolithic resource exploitation. Both sets of animal remains reveal cut marks associated with all stages of butchery, with every indication that the prey was processed at the site. It also appears that the Neanderthals developed sophisticated hunting techniques to target prime-age Caucasian turs.⁵⁶ This ability to cull specific animals in a herd – Neanderthal hunting tactics did not extend to sex-based strategies – required

⁵³ Schwartz and Tattersall 2002.

⁵⁴ Adler et al. 2008.

⁵⁵ Adler et al. 2006a.

⁵⁶ On the difficulty of determining age ratios for the Caucasian tur, see Klein's comments in Adler et al. 2006a: 108–9.

group co-ordination and planning, as well as a deep knowledge of animal behaviour, traits that are usually accorded to modern humans.

Turning to the stone tool assemblages, studies have shown that there are marked differences in stylistic morphology between the late Middle Palaeolithic (largely scrapers) and the early Upper Palaeolithic (mostly microlithic). These dissimilarities represent cultural elements, say the Ortvale Klde scientists, and do not necessarily reflect differences of functional effectiveness. In other words, the Upper Palaeolithic toolkit, often described as superior and ‘modern’, is the tangible manifestation of a totally different cultural grouping, rather than exhibiting any technological edge. Accordingly, the toolkit cannot be considered the drive behind the demise of the Neanderthals.

What, then, did the Upper Palaeolithic societies have over their Neanderthal counterparts? It seems that the critical factor was their larger social networks, which gave them the edge in mobility and resources exploitation, especially raw materials. With larger networks, modern humans were able to cover larger territories far more effectively and rapidly. It also seems to have given them the confidence to explore regions beyond the comfort zone of Neanderthals. An example of this far-reaching network is seen in Level 2 ($32,230 \pm 740$ years BP) at Mezmaiskaya Cave in the northern Caucasus, where an early Upper Palaeolithic lithic tradition similar to Layer 4 at Ortvale Klde was found above a late Middle Palaeolithic tradition that has few affinities with its contemporary south Caucasian sequences (Figure 2.7). In a relatively short time, then, the Caucasus Mountains, once a barrier to Neanderthal peoples, had been breached.

NOVEL TECHNOLOGY AND NEW ARRIVALS: THE UPPER PALAEOLITHIC (35,000–10,000 BC?)

The Middle to Upper Palaeolithic transition in Europe is distinguished by the appearance of the Aurignacian stone tool industry on the southern edges of Europe between 45,000 and 40,000 years ago. Burins, long blades, and steep-ended scrapers, some of the types that differentiate the technology, are found at sites that stretch from Bacho Kiro and Temnata in Bulgaria through Grotta de Fumane in northern Italy to El Castillo in northern Spain.⁵⁷ The spread of this industry appears to have moved westward and was initially restricted to the Mediterranean fringe, where a relatively mild climate prevailed. The bearer of these innovations is generally accepted to be *Homo sapiens* rather than the Neanderthals, though there are too few human skeletal remains associated with Aurignacian deposits to be certain.⁵⁸

⁵⁷ Jochim 2011: 71–8. On Eurasia, see Adler and Jöris 2007.

⁵⁸ Mellars 2006. On the Aurignacian, see Bar-Yosef and Zilhão 2006, and within the volume, Otte 2006 for the Caucasus. See also Otte 2004, and Adler 2009 for surrounding regions.

For many decades, the Caucasian Upper Palaeolithic with its many sites had been viewed as an adjunct to the European sequence, but in recent years precise dating and modern collection methods have enabled the behaviour of these later Palaeolithic societies to be studied on their own terms (Figure 2.4).⁵⁹ Yet results of early investigations remain difficult to interpret owing to stratigraphic and chronological complications.⁶⁰ Several attempts to disentangle these sequences have been faced with the problem of mixed material, especially at the Middle to Upper Palaeolithic interface.

We need to turn once again to Mezmaiskaya Cave and its neighbour, Kamennomostskaya Cave, which have tool assemblages that are technologically and typologically distinct from their late Middle Palaeolithic counterparts.⁶¹ This clear cultural break revises the view of an evolutionary trajectory out of the Middle Palaeolithic local Micoquian and rather suggests that the region embraced new ideas. The critical levels at Mezmaiskaya Cave are 1A–1C (top to bottom) beginning around 33,000 BP, which points to a likely gap between the late Middle Palaeolithic and early Upper Palaeolithic periods at the site. Animal bones from Mezmaiskaya indicate new behavioural traits, such as hunting patterns, butchering strategies and the seasonal nature of the cave's occupation. The preponderance of sheep and goats mirrors the trend observable during the later Middle Palaeolithic of the Caucasus, including at Ortvale Klde, and in Eurasia generally. This shift is likely to reflect the availability of caprids, probably as a result of a cooler climate. It appears, too, that the large ungulates were selectively transported back to the cave.

Further information can be extracted from this zooarchaeological evidence. The migratory habit of sheep and goats to climb to higher altitudes in summer, for instance, points to which season Mezmaiskaya Cave is likely to have been occupied and also to why such a high altitude site (1,310 m asl) was chosen. The question of who had the first meal off the carcasses – humans or carnivores – is clearly answered by cut-marks on limb bones. Nonetheless, evidence of intense gnawing indicates that carnivores scavenged the leftovers.⁶² The stone tool industry has a rich assemblage of mostly grey flint bladelets and micro-tools used for processing food, and a copious quantity of debitage (Figure 2.7). The *chaîne opératoire* is clearly discernible – cores have crested scars as a result of their preparation, and blades were detached from punctiform striking platforms. Overall, the Mezmaiskaya industry shares much in common with that from Kostenki 17 on the Don River. But although this technology is intrusive to the northern Caucasus, we cannot attribute it to the arrival of modern humans in the absence of any skeletal material.

⁵⁹ Bader 1984; Nioradze and Otte 2000; Meshveliani et al. 2004.

⁶⁰ For an attempt to separate mixed materials, see Meshveliani 1989; for radiocarbon re-evaluation of sequences excavated by early researchers, see Nioradze and Otte 2000.

⁶¹ Golovanova et al. 2006.

⁶² Golovanova et al. 2006: 55.

Dzudzuana Klde, close to Ortvale Klde, is another key site. Earlier excavations conducted by David Tushabramishvili have been consolidated into a new sequence that delineates four units: D (ca. 34,500–32,200 BP) and C (ca. 27,000–24,000 BP) belong to the Upper Palaeolithic, B is part of the terminal Palaeolithic (ca. 16,500–13,200 BP), and A is a Neolithic deposit (ca. 6000). These clearly differentiated deposits are separated by sterile layers, which possibly represent severe climatic conditions that prompted the community to leave the cave. Some thirty radiocarbon dates afford a robust chronometric framework, which, combined with the rich sequence of stone tools (Figure 2.8) and organic material, provide a holistic picture of life in the mountains.⁶³

Amongst the most remarkable finds from the organic material at Dzudzuana Cave, indeed of the entire Palaeolithic period in the Caucasus, are 787 fragments of wild flax fibres, some spun and dyed blue, green, and pink, others knotted.⁶⁴ Identified by Eliso Kvavadze, they were found throughout the sequence, but the largest quantity derived from Unit C. Although we have no botanical remains, these microscopic remnants of flax (non-pollen polymorphs) indicate that yarn was made for a variety of functions, such as weaving containers, sewing costumes, and hafting tools. Evidence of goat hair, also spun and dyed, as well as animal fur and the remains of micro-organisms like mites (*Acarî*) further indicate that the residents of Dzudzuana Cave processed hide and hair. Spores of the fungus *Chaetomium*, which consumes textiles, also support the idea that these hunter-gatherers produced their clothes.

These skills in textile weaving and dyeing must rank amongst the most important Palaeolithic achievements, requiring as many cognitive abilities as were needed for the production of stone tools. Whether flax or hair, the material had to be processed in several stages. First the fibres had to be cleaned and prepared, and then spun, twisted or rubbed into cord. Although the pink dye detected on the Dzudzuana fibres could be accidental, the result of berry juices staining baskets, for instance, it might also indicate some knowledge of the involved procedure of dye production. If this were the case, then Dzudzuana Cave residents knew about natural dyes (most likely plant dyes) and how to fix them to fibres. Plant parts had to be collected during the flowering or fruiting season, ground to a powder, and then stored. Then the fibres had to be mixed with the dye and boiled at a low temperature, possibly with heating stones. Finally, to ensure the purity of dyes and to fix them to fibres, a mordant was probably used. Natural mordants include juice of unripe grape, wood ash, and a mixture of mud and animal urine.

Throughout the human occupation of the cave, the surrounding landscape and climate changed considerably. Pollen analysis shows a gradual deterioration in climate in Unit D from relatively warm temperatures through

⁶³ Meshveliani et al. 2004; Bar-Oz et al. 2008; Kvavadze et al. 2009; Bar-Yosef et al. 2011.

⁶⁴ Kvavadze et al. 2009; Bar-Yosef et al. 2011: 344.

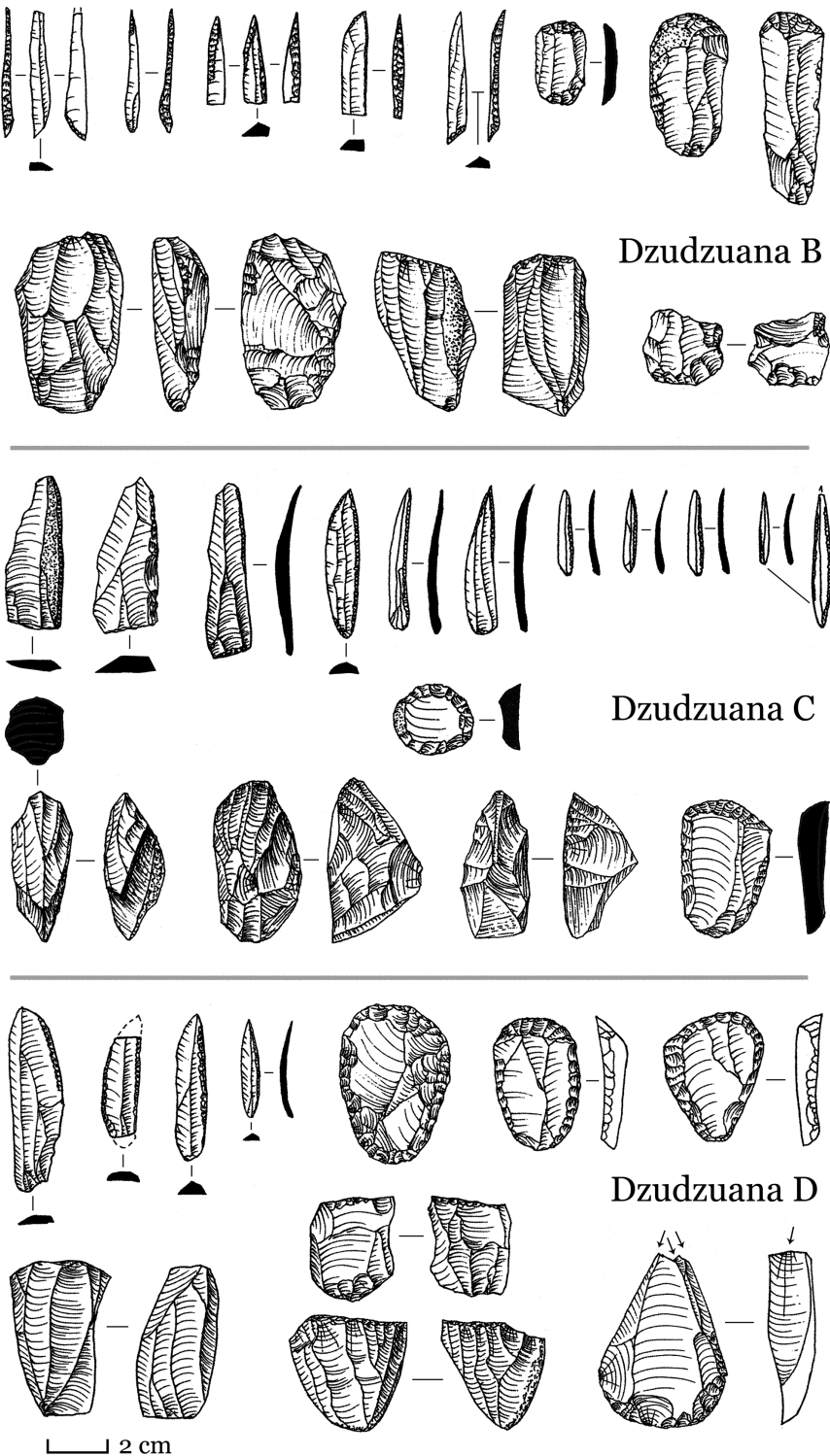


Figure 2.8. Characteristic stone tools of the Upper Palaeolithic and Epi-Palaeolithic levels at Dzudzuana Cave (after Belfer-Cohen and Goring Morris 2014).

an increase in humidity to dry and cold steppe-like conditions. In terms of vegetation, the surrounding landscape shifted from woodland of hazel (*Corylus*) and oak (*Quercus*) to an environment comprising mainly birch (*Betula*) with some pine (*Pinus*) and grasses (*Artemisia*). Above this, in Unit C, the occupants of the cave experienced warmer and wetter conditions. A high frequency of weeds inside the cave, including plantain (*Plantago*) and nettle (*Urtica*), suggests they were brought in underfoot by its residents. Outside, the valley had a forest canopy of mixed trees – wingnut (*Pterocarya pterocarpa*), walnut (*Juglans regia*), oak (*Quercus*), linden (*Tilia*), and alder (*Alnus barbata*) – and an undergrowth of forest ferns and mushrooms. By the end of the Palaeolithic, cold conditions gripped the region, now harbouring alpine trees including an abundance of rhododendron (*Rhododendron caucasica*).

The hunters of Dzudzuana Cave targeted similar animals to their neighbours in the northern Caucasus. Thus, in Unit D Caucasian tur is the predominant prey, giving way to the steppe bison and aurochs in the period 27,000–24,000 BP (Unit C). At the end of the Upper Palaeolithic, bison, aurochs and tur were hunted in roughly equal numbers, though there was a taste for red deer, too. While the species hunted in this period changed, the taphonomy of their bones indicates that they were brought down and butchered in a similar fashion during the entire Upper Palaeolithic.

Local chert was relatively poor quality and toolmakers produced a lot of wasters. Even so, the low proportion of debitage indicated that most tools were worked elsewhere. Obsidian sourced at least 80 km from the site points to a procurement system beyond the immediate environs. End-scrapers, including a few of a distinctive rounded type, dominate the lithic collection of Unit D, which also has burins (Figure 2.8). These tools were struck from unidirectional cores. Bone and antler points were part of the toolkit, and a bone fragment with a pair of incised triangles points to an emerging interest in the decorative. Small blades and even smaller bladelets, reduced from ‘carinated narrow cores’, were the preferred tools in Unit C (Figure 2.8).⁶⁵ No Aurignacian tools, the markers of the West European Upper Palaeolithic, were found. Instead we have unique types, such as the so-called Sakajia points. Curved in form with an abrupt retouch, they are redolent of Gravette points but technologically distinct. This assemblage also has an abundance of bone and antler tools. Awls were shaved and then polished, a rib was turned into a spatula, and there is even an eyed needle. A small stone pendant with a scalloped edge and bone pieces with incised patterns, some quite detailed, show that aesthetic sensibilities were growing. The main technological change at end of the Palaeolithic occupation (Unit B) was the use of bipolar cores (Figure 2.8), which were used to produce bladelets that are backed or retouched on an anvil (micro-gravettes). Again end-scrapers outnumber burins and appear consistently throughout Units

⁶⁵ On the production of carinated cores, see Belfer Cohen and Goring-Morris 2014: 1400.

D–B, as do *pièces esquillée*, though in fewer numbers. These characteristics place Dzudzuana B on the eastern edge of the Epi-Gravettian techno-complex.

Looking at the broad Caucasian context, it is not surprising that Dzudzuana Unit D has its closest connections with Ortvale Klde Layer 4. But the Dzudzuana excavators also see resemblances with the stone tool industry at Apianchi Cave in the west Georgian lowlands and, despite a few differences like an absence of carinated cores, Mezmaiskaya Cave in the northern Caucasus.⁶⁶ These affinities indicate that the Caucasus Mountains were easily crossed by the new arrivals, who maintained social cohesion. Carinated cores are a hallmark of Unit C, as well as Sagvardzhile Layer V and Samerzkhle Klde, amongst other Georgian assemblages, and often used to draw parallels with the West European Aurignacian. In terms of the reduction processes and typology, however, these south Caucasian cores represent an altogether different tradition. In any event, distinctive bone and antler artefacts, such as split-base points, characteristic of the Aurignacian, are missing from the Caucasus.

Slowly an Upper Palaeolithic sequence is coming together. The rich assemblage of blades and microliths from Dzudzuana Unit C are mirrored at the nearby sites of Megvimevi Rockshelter, Sakajia Cave, and Gvardjilas Klde; and further afield, in Armenia, there is Kalavan 1, a fully Upper Palaeolithic site dated by a suite of radiocarbon dates to between $14,060 \pm 70$ and $13,750 \pm 60$ BP (uncal.). The gaps in the Dzudzuana sequence remain puzzling, but may eventually be filled by the assemblages from recent excavations at Savante Savan (for the Dzudzuana D–C hiatus) and Satsurblia Cave (for the C–B gap).⁶⁷ One thing is clear; namely, the bearers of the Upper Palaeolithic tradition arrived considerably later in the Caucasus than they did in Western Europe and the Near East, but when they appeared they moved swiftly, peopling both the northern and southern Caucasus at the same time.

MESOLITHIC HUNTER-FORAGERS (CA. 10,000–6500 BC)

Between the end of the last Ice Age and prior to the appearance of the earliest agricultural settlements lies the Mesolithic, an interlude of time that witnessed some abrupt changes in climate. After the gradual warming of temperatures in the post-glacial period, hunter-gatherer communities throughout Europe and the Near East had to adapt to a severe cold spell, which lasted between 10,800 and 9500 BC, known as the Younger Dryas period.⁶⁸ After this bitterly dry chill, the warming trend continued, reaching a peak during the Climatic Optimum, which prompted a farming economy. As in the Palaeolithic period, these oscillations in temperature necessitated Mesolithic communities to

⁶⁶ Bar-Yosef et al. 2011: 344.

⁶⁷ Belfer-Cohen and Goring-Morris 2014: 1400.

⁶⁸ Berger 1990; Muscheler et al. 2008.

adapt their behaviour in a changing landscape. In many other respects the late Palaeolithic and Mesolithic hunter-gathering societies are difficult to differentiate. Microlithic stone tools, so diagnostic of the Mesolithic, for instance, have their genesis in the stone industries of the Palaeolithic. Likewise the boundary between the end of the Mesolithic and the early Neolithic is also blurry, especially in the Caucasus, where Mesolithic assemblages can be confused with the 'Pre-Pottery Neolithic' (see Chapter 3).

Even so, the Mesolithic is a critical interval, sandwiched between two markedly different modes of existence – the tail end of hunter-forager and the beginning of food production. But the Mesolithic should not be seen as a muddled cultural link. Communities drew on past traditions and foreshadowed future innovations, making significant contributions to social organisation, art and technology. In the Caucasus it is a fledgling field of study, to be sure, but some sketchy outline is possible all the same.

A large number of sites have been attributed to the Mesolithic. In the Caucasus they extend across a range of altitudes and environments from the coast of the Black Sea to mountain tops higher than 2,100 m asl. One scheme based on early excavations proposes four regional Mesolithic traditions for the Caucasus (Figure 2.9):⁶⁹ one is situated along the north-east Black Sea coast extending to steppes of the northern foreland (the sites of *Atsinskaia Peshchera*, *Iashtkhva*, *Kvachara*, *Apianchi*, *Kholodnyi Grot*, *Dzhampala*, and *Entseri*); the second is the *Imeretia* variant (*Sagvardzhile*, *Chakhati*, *Darkveti*, *Kvedi*, *Kudaro*, and *Tsona*); a third is located in the *Trialeti* highlands (*Gudaleti*, *Edzani*, and *Zurtaketi*), where communities had access to nearby obsidian sources; and the last is a *Dagestan* Mesolithic, typified by the open settlement of *Chokh*, but also attested at *Koz'ma-Nokho* and *Mekegi*. The same study, based purely on typology, suggests that the Mesolithic evolved over three chronological stages – early, middle, and late. We know most about the 'Trialetian Mesolithic', a widespread industry that reached into the Trans-Caspian region, eastern Anatolia and the Iranian Plateau.⁷⁰ The lack of any absolute dating anchors and nuanced stratigraphic sequences against which technology and behavioural traits can be assessed is a drawback to conceptualising a Mesolithic model.⁷¹

We now have some rigorously excavated sites for the late Upper Palaeolithic to Mesolithic transition. The most important are *Kotias Klde*, a karstic cave above the *Kvirila* River in western Georgia, and *Chygai* rock shelter and *Dvoinaya Cave* in *Gubs Gorge*, located in the northern foothills of the western Caucasus within the *Krasnodar* region.

Kotias Klde has a sequence spanning, from top to bottom, the Neolithic (Layer A), Mesolithic (Layer B), and Upper Palaeolithic (Layer C). Layer B, a

⁶⁹ Bader and Tsereteli 1989. See also Kushnareva 1984.

⁷⁰ Kozłowski 1996.

⁷¹ Meshveliani et al. 2007: 49.

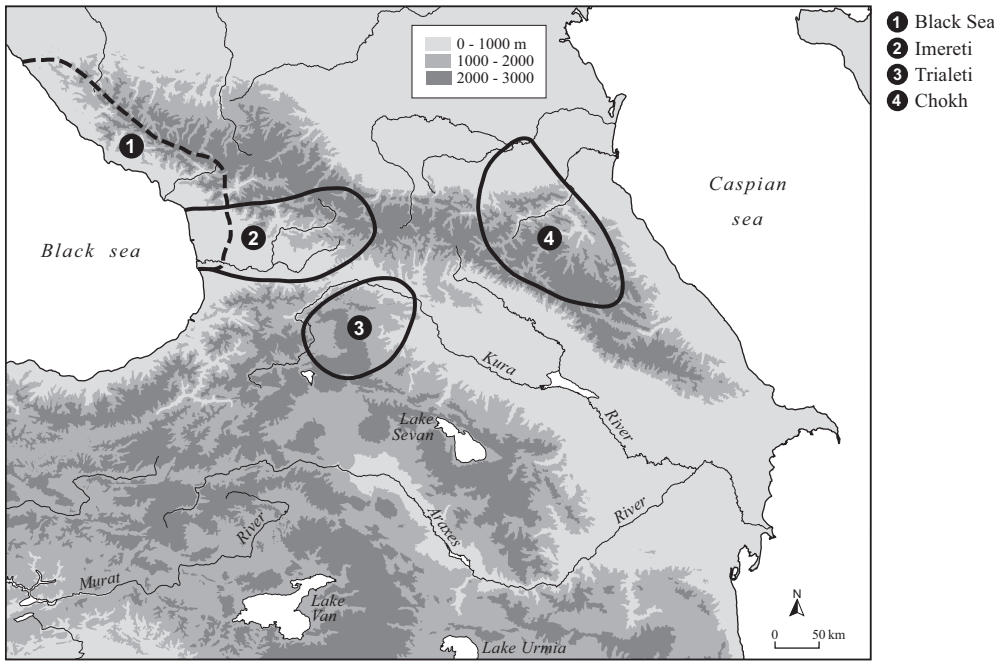


Figure 2.9. Map showing the broad Mesolithic stone tool traditions (after Bader and Tsereteli 1989).

60-cm deposit of dark sediments, rich in stone tools and faunal remains, has three sub-phases (B1–B3) that have been radiocarbon dated to between 12,400 and 10,300 cal. BP.⁷² This timeline is more or less in keeping with recent chronometric dates from Chygai and Dvoinaya, in the northern Caucasus.⁷³ The stratigraphic subdivisions of Layer B at Kotias Klde, however, are not reflected in the lithic industry, which is a relatively homogeneous assemblage in terms of both types and technology (Figure 2.10). Tools were struck mostly from flint and a crystal rock that were both locally available, and obsidian, derived from the Chikiani source in southern Georgia. Cores are few in number and display up to three striking platforms. This could indicate that tools were brought to the site ready-made, or that the workshop has not yet been discovered. But the considerable amount of small debris suggests that tools were re-sharpened in the cave; many pieces also bear traces of heavy use wear. Most tools (blades and flakes) were detached from their cores in a unidirectional manner. Bladelets (backed and retouched), some no more than 2 mm in width, are the most frequently occurring tool category of the Mesolithic (Figure 2.10 (1–12)). They can be obliquely truncated, or shaped into distinctive triangles (scalene

⁷² Meshveliani et al. 2007: 50.
⁷³ Leonova 2009, 2014a. The dates from the Mesolithic layers at Dvoinaya Cave are 8980±280 BP, GIN 14,704 (bone); 10,020± 160 BP, GIN 14,706 (soil); 11,830±160 BP, GIN 14,703 (bone).

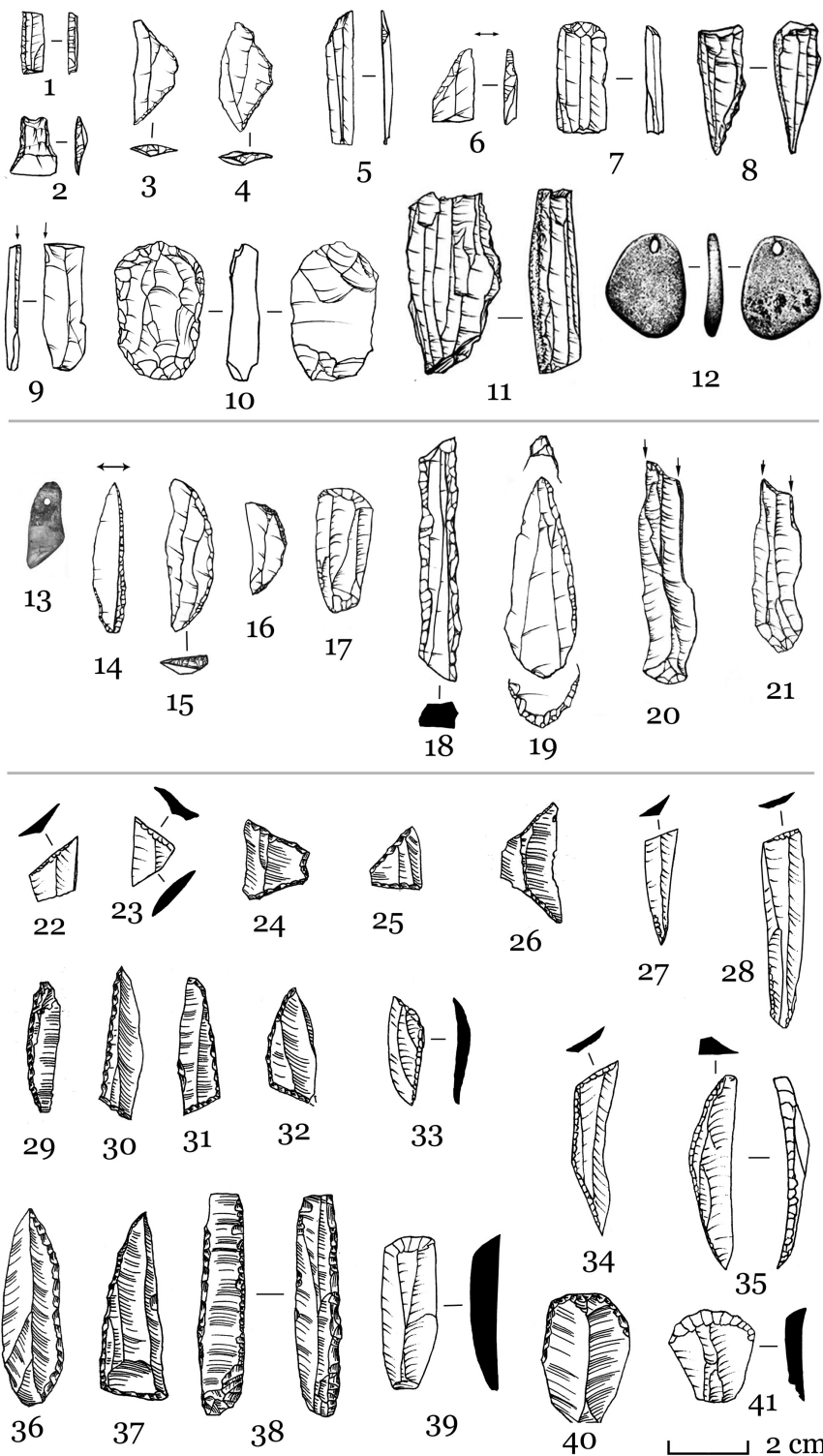


Figure 2.10. Mesolithic stone tools and objects: **(1–12)** from Dvoinaia Cave, the northern Caucasus, late Mesolithic; **(13–21)** Dvoinaia Cave, the northern Caucasus, early Mesolithic (after Leonova 2009; 2014a); **(22–41)** Trialetian industry from Kotias Klde, Chokh, Belt Cave upper (after Meshveliani et al. 2007; Kozłowski 1996).

and isosceles) using bipolar retouch. End-scrapers are also common and continue a late Upper Palaeolithic tradition, as do burins. A few bone tools were also recovered, including points and a perforated antler handle. The Kotias Klde assemblage is comparable to that at Darkveti rock shelter situated 300 m beneath it.

Just as important are the comparable industries found further afield, in particular those at Hallan Çemi in south-eastern Anatolia and Ali Tepe in the Elbruz region of Iran.⁷⁴ Plotting a developmental sequence over such a large territory is difficult with so few reliable radiocarbon sequences, but some broad inferences can be drawn. In the eastern half of the region, Trialetian elements appear first at Ali Tepe (ca. 10,500 BC) and slightly later at Hallan Çemi (ca. 8600/8500 BC). The industry survives at Ali Tepe until 8870 BC, peters out at Hallan Çemi around 7600/7500 BC, with the last expressions found in the upper layers at Belt Cave (ca. 6000 BC). In the southern Caucasus, a modified version of the Chokh variant appears to continue into the earliest ceramic levels, but in Georgia there is a clear distinction between the Neolithic geometrics and the trapeze microlithic of the Trialetian Mesolithic (Figure 2.10 (22–41)).

The diet of these cave dwellers was mostly mammals. Fifty-one per cent of animal bones belong to wild boar (*Sus scrofa*), many of which were young individuals. Roe deer (*Capreolus capreolus*) and red deer (*Cervus elaphus*) are equally represented at 10 per cent and mostly prime-age specimens. Bones from all three taxa bear cut marks associated with skinning, dismemberment, and filleting. The long bones were also spilt open to extract the marrow. Unlike their Upper Palaeolithic predecessors of Layer C, however, the Mesolithic hunters did not pursue other ungulate taxa such as aurochs, steppe bison, Caucasian tur, and wild horses, whose remains are not represented in the Layer B fauna. Brown bear (*Ursus arctos*) remains are worth noting because of the high representation, totalling 34 per cent of the assemblage. In contrast to the remains of ungulates, bones of the brown bears only carry butchery cut marks associated with skinning. Yet the diversity of species, the predominance of young individuals and the recovery of complete skeletons suggest that they were regularly hunted and played a significant role in the life of the Kotias Klde community. Indeed, drawing on a range of ethnographic archaeological evidence, the excavators suggest that brown bears were not hunted primarily for their meat, but rather for their fur and for symbolic reasons.⁷⁵ Pursuing and killing a dangerous carnivore, and then carefully butchering its carcass, might well be viewed as a ritual practice, perhaps linked to a Mesolithic belief system.

Overall, then, Kotrias Klde Layer B is important for a number of reasons. Its radiocarbon readings enable us to place it clearly between the late Upper

⁷⁴ Kozłowski 1996.

⁷⁵ Bar-Oz et al. 2009.

Palaeolithic (the Epi-Gravettian) tradition at Dzudzuana Cave and the early Neolithic (Kotias Klde Layer C). But the chronological link is not seamless, with a 1,000-year gap between Dzudzuana Cave and Kotias Klde. According to the excavators, this has two possible explanations: either this region of western Georgia experienced cultural discontinuity as a result of significant environmental changes at the beginning of the Younger Dryas, or Mesolithic Kotias Klde may represent the arrival of new peoples.⁷⁶ As a result of exacting retrieval techniques in the field, we have a better understanding of the technological aspects of the lithic industry, highlighted by tiny retouched tools and debris. Finally, the hunting and social behaviour of a Mesolithic community of foragers is becoming clearer. Kotias Klde Layer B was a seasonal camp visited by hunters during the late spring and early summer.⁷⁷ Their purpose was primarily to target wild boar and brown bear. The site's faunal assemblage is significantly different compared to those of the Middle and Upper Palaeolithic period, when mountain goats and steppe bison dominated the taxa. Darkveti rock shelter has a suite of taxa similar to Kotias Klde, though it yielded fewer bones. This shift in prey might reflect a combination of several factors – a change in climate from warm spells to a cold period, a new toolkit, different hunting strategies focused on bringing down dangerous game, novel social mores that highly valued hunting prowess, and perhaps even a belief system that invoked the attributes or spirits of the brown bear.

Turning to the northern Caucasus, the sequences at Chygai and Dvoinaya have been combined and together they contain fourteen lithological horizons.⁷⁸ The Mesolithic is represented at Dvoinaya – Layer 6 (Early Mesolithic) and Layers 4–5 (Late Mesolithic). Some 3,000 stone tools fashioned from various coloured flint, especially grey brown, were found at Dvoinaya Layer 6 (Figure 2.10 (1–21)). Evidence for the manufacture of tools on site is also abundant. End-scrapers were particularly popular, though the assemblage includes retouched blades and bladelets, and denticulated and notched tools. A considerable number of geometric microlith segments were also found, but bone tools are rare. The early Mesolithic stone tools from Dvoinaya are very similar in character to the Sosruko rock shelter in the central Caucasus, but as the technology developed the Dvoinaya assemblage looked more like that at Badynoko rock shelter, with its oblique truncation and bone slotted points.⁷⁹ Further evidence of extensive contact with the central Caucasus some 250 km away are obsidian fragments, most probably from Zaikovo (Baksan Gorge).

⁷⁶ Meshveliani et al. 2007: 56.

⁷⁷ Bar-Oz et al. 2009: 21; cf. Meshveliani et al. 2007: 56, who suggest that the site was occupied in late summer to early autumn.

⁷⁸ Leonova 2009, 2014a.

⁷⁹ Bader and Tsereteli 1989.

The technological change from the end of the Palaeolithic to the Mesolithic is almost gradual in this region, but the trend within the Mesolithic is significant. Early Mesolithic industries have no trapezes and a large quantity of segments, but this changes rather abruptly to preponderantly assemblages of geometric microliths, especially trapezes. This trend mirrors the technological change observed in the Crimean Mountains.⁸⁰ The recent discovery of an ornamented bone in Layer 7 at Dvoinaya, a rich late Upper Palaeolithic deposit, should be mentioned.⁸¹ It is longer than 11 cm in length, curved with tapering ends and well polished. Three rows of transverse shallow notches (forty-two to forty-five in each row) are incised on three sides. Bone artefacts are rare in the northern Caucasus and this particular example recalls similarly notched artefacts from Western Europe, whose function remains unclear.

Pollen analysis indicates that Gubs Gorge was covered in dry steppes (Poaceae, Chenopodiaceae, *Artemisia*) during the Mesolithic, interspersed with occasional birch and pine trees. Towards the end of the Mesolithic period, oak and chestnut begin to appear.⁸² This reconstruction tallies with the animal bones, which include forest and steppe species. Small mammals – ovicaprids and various deer species – are predominant in the early levels, with larger animals such as bison and wild pig hunted later on. Worthy of note is the quantity of shells of the mollusc *Helix spp.*, a feature that Dvoinaya shares with Badynoko and Sosruko rock shelters. The plentiful quantity of freshwater fishbones (salmon, trout, and more besides) at Apianchi and Kholodnyi Cave, associated with fishhooks and harpoons (at Sagvardzhile), points to a diversification of economic practices.⁸³

ROCK ART AND RITUAL

Rising out of the parched semi-desert of central Azerbaijan, above the shattered cliffs bordering the Caspian Sea, is Gobustan, a plateau of rocky boulders hosting an extensive collection of some 6,000 rock carvings, the largest concentration of petroglyphs in the Caucasus (Figure 2.11).⁸⁴ Other engravings are found in quite different environments, including the Gegham Mountains and Syunik region of Armenia, the Tsalka Plateau (the Trialeti or Patara Khrami petroglyphs) in south-eastern Georgia, the Chiatura district (Mgvimevi Caves) and Agtsa (Abkhazia) in western Georgia, and in Dagestan (near the town

⁸⁰ Leonova 2014a: 47.

⁸¹ Leonova 2014b.

⁸² Leonova 2014a: table 2.

⁸³ Bader and Tsereteli 1989: 104.

⁸⁴ Djafarzade 1973; Anati 2001; Farajova 2009; Gobustan Petroglyphs: Smithsonian Institution <http://gobustan.si.edu/introduction> [accessed June 23, 2015].

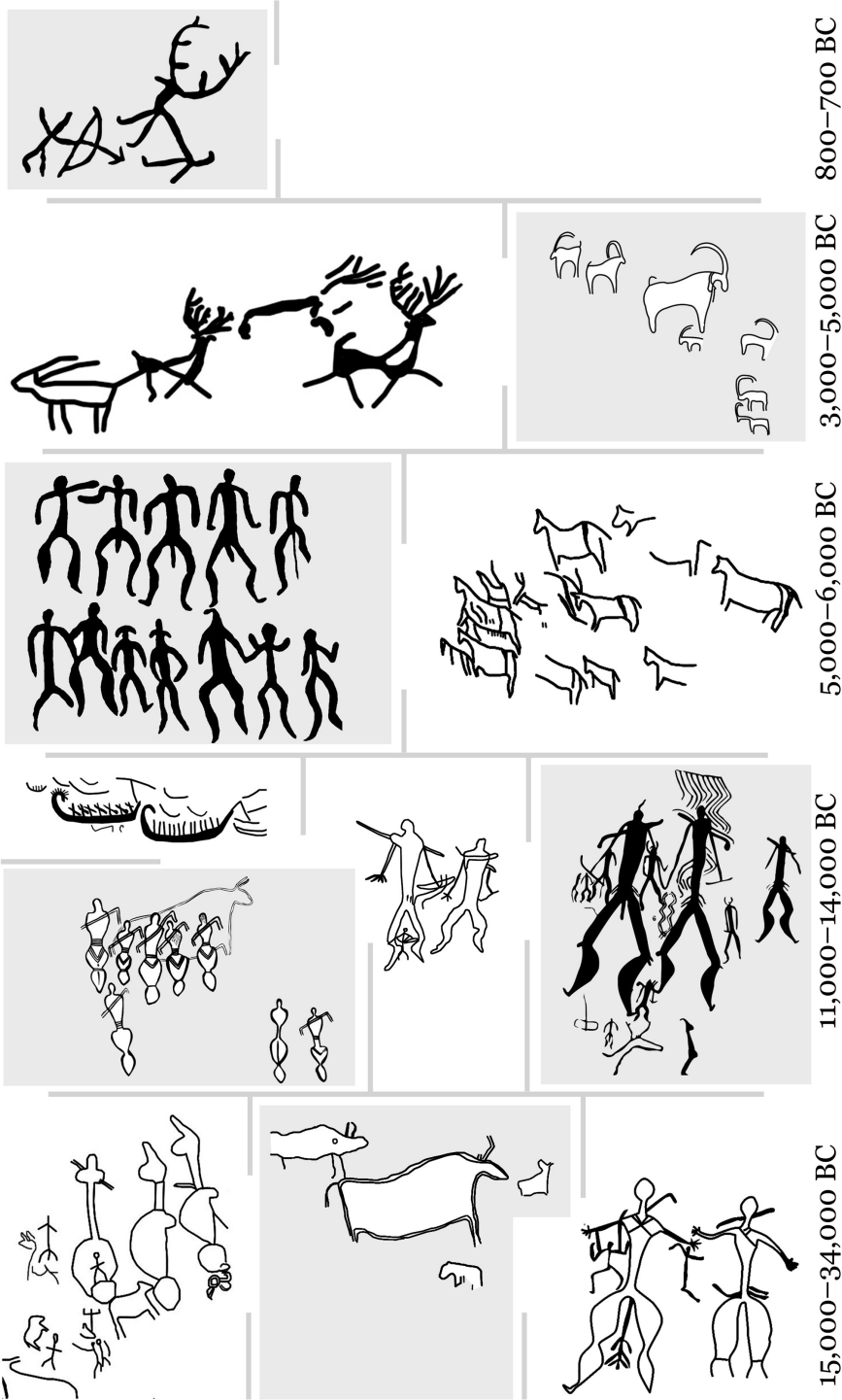


Figure 2.11. A selection of petroglyphs from Gobustan (drawn by C. Sagona after Farajova 2009; Gobustan Petroglyphs: Smithsonian Institution).

of Buynaksk, and at Chuval-Khvarab-Noho, Chinna-Hita, and Haritan).⁸⁵ Stylistically, the art at these sites varies in the way the images were carved and in their subject matter. Each site is also a palimpsest, having attracted artists over many millennia and depicting the scenes and symbols that held meaning for their cultures. For the sake of cohesion and to appreciate artistic change, I consider all rock art together, focusing on the images that are considered to be Palaeolithic.

Rock art is notoriously difficult to date, whether in a relative or chronometric sense. Recognisable artefacts such as boats and vehicles can be used to assign a relative date to images. Animals that no longer roam a particular region or are extinct are less specific and more difficult to date, but not as problematic as non-figurative signs that can be slotted into any period. Where superimposition occurs, rarely in the Caucasus, internal site chronology can be constructed. More hopeful for arid regions is to date petroglyphs chronometrically using rock (or desert) varnish, a dark coating of fine wind-blown dust particles that adhere to the rock surface with the help of microbes.⁸⁶ No chronometric analyses have as yet been applied to the Caucasian carvings, which have been loosely ordered into sequences using stylistic attributes.

Turning first to the volcanic landscape of Gobustan, where the caves and rock shelters are embedded within three flat-topped hills – Jinghirdagh and Yazlytepe, Beyukdash, and Kichikdash – the onlooker is immediately struck by the vibrant testimony to artistic expressions executed over a very long period of time, reaching from the Upper Palaeolithic to the modern era. Within these areas, Pleistocene art is found only at Beyukdash (the sites of Kaniza, Ana-zaga, and Okuzler) and Kichikdash (at Gayaarasi and Jeyranla). Rock art is also found in two other locations in Azerbaijan, the high-altitude site of Gemigaya in Nakhichevan and Kelbajar in western Azerbaijan, but neither has Pleistocene art. Here I deal only with Gobustan and all its subject matter, as the site's longevity alone suggests it was a place of singular significance for many generations of coastal dwellers. Within this vast complex, which covers some 537 ha and is today known as the Gobustan National Historical Artistic Preserve, are also settlements, burial sites, and special areas, possibly sanctuaries associated with the rituals depicted by the rock engravings. Despite the significance of Gobustan, little research and analysis using contemporary methodologies applied to rock art sites has been carried out. Establishing a precise dating sequence has yet to be achieved. Given the proximity of the BP gas pipeline, which cuts through the northern buffer zone, exploration is all the more important. So far, investigations have focused on the eastern section of the plateau.

⁸⁵ Gegham Mountains: Martirosian and Israelian 1971; Syunik: Karakhanian and Safian 1970; Trialeti: Gabunia and Vekua 1980; Mgvimevi: Zamiatnin 1937; Agsta: Solov'ev 1960; Dagestan: Markovin 1961.

⁸⁶ Dorn 2001, for a summary see Whitley 2011: 84–8.

The 6,000 images at Gobustan are spread across 1,000 rock faces (Figure 2.11). This is comparable in size to another large concentration of petroglyphs, on the Tırşın Plateau in the lofty Hakkâri Mountains in south-eastern Turkey.⁸⁷ The Gobustan petroglyphs depict a variety of human and animal motifs, as well as numerous boats. Their bold imagery reflects an assured confidence in carving stone. Some images are of an impressive scale, as is seen by the larger than life-size depiction of a fisherman, standing 4.3 m tall, and several representations of aurochs that are taller than 2 m. Many representations exhibit a degree of naturalism, even though features are usually rendered in schematic form. Close examination of the images reveals most were pecked with a hammerstone, though some appear to have been scratched or incised with a lithic or metal tool. In certain societies, the choice of a hammerstone was important and often imbued with religious significance, though whether this applied in Gobustan cannot as yet be determined.⁸⁸

Climatic conditions were probably quite different when the earliest petroglyphs were carved. The depiction of deer, goats, ibexes, wild buffalo, wild pigs, horses, and lions suggests a wetter and milder climate than exists in the present time. This theory is supported by pollen analysis and vegetation remains preserved in the Binagadi bituminous deposits, which point to a heavily wooded region, dominated by a mixed pine-oak forest.⁸⁹ It has also been suggested that the Caspian Sea, which has had substantial fluctuations during its lifetime, was higher than it is today when the petroglyphs were carved.⁹⁰ In fact, the water's edge, currently 6 km away, may have lapped around the base of the three hills, or possibly even surrounded them, isolating the sites as rocky outcrops on the coastal fringe. This might explain the preponderance of boat images (Figure 2.11).

Iskhag M. Djafarsade carried out the most extensive investigations at Gobustan. In 1939–1940, and after 1947, Djafarsade managed to record more than half of the images, an inventory that was later expanded by R. Djafarguly, who also carried out excavations.⁹¹ The dating of the petroglyphs is still very loose. Estimates vary enormously from those that place the earliest depictions at around 20,000 years ago with a concentration at 12,000 BC to studies that see nothing older than 1000 BC.⁹² Much of the dating has been based on the

⁸⁷ Sagona and Zimansky 2009: 27–9.

⁸⁸ Whitley 2011.

⁸⁹ Farajova 2012: 930.

⁹⁰ Beni et al. 2013. The two extremes of the Caspian Sea fluctuations occurred during the Little Ice Age (AD 1300–1870) when it reached a high-stand up to 21 m, and a –28 m low-stand during the Medieval Climate Anomaly (or Medieval Climate Optimum, AD 950 to 1250). Unfortunately, very little evidence is available before these modern periods.

⁹¹ Djarzadzade 1973.

⁹² Smithsonian Institution <http://gobustan.si.edu/chronology>.

presumed evolution of style that Djararadzze proposed. He distinguished six main artistic phases: Late Pleistocene–early Holocene; Neolithic, Eneolithic, Bronze Age, Iron Age, and Medieval.⁹³ But as rock art studies have shown, the stylistic approach is on the whole unsatisfactory.⁹⁴

Malahat Farajova has further developed Djararadzze's scheme using animal images, the most numerous motifs, to determine broad chronological periods. According to Farajova, representations of aurochs should be ascribed to the earliest phase, the Upper Palaeolithic–Early Holocene, when these ancestors of the domesticated oxen prospered in the region. Aurochs are often depicted at life-size with sweeping horns, a strong and curved back, and a wide muzzle. This phase is further split into four styles, again based on the stylistic depiction of the animal. In her Style II, Farajova includes low-relief images of pregnant women, whereas Style IV (10,000–8000 BC) incorporates images of male hunters bearing bows and arrows. These hunters have provided the firmest dates so far. Serendipitous fragments bearing these images were found stratified in secure deposits at settlements – Okuzler 2 and Kaniza located in the upper terrace at Beyukdash, Gayaarasi at Kichikdash, and at Shongar – which, in turn, yielded associated dateable organic samples.⁹⁵ Material like this found in excavations at present provides the most reliable dating method, even though the date is a *terminus post quem* – a date after the fragment became detached from the cave wall rather than when it was executed. On the whole, though, the occurrence of cockleshells in the upper terrace at Beyukdash points to a similar time, in the Pleistocene period, when the Caspian Sea was a body of fresh water.

Palaeolithic artists at Gobustan rendered their subject matter with flair. Female figures are portrayed with exaggerated physical features. Most of them have small heads, usually knob-like, wide hips, and legs that taper to a point. A narrow waist and loin-cloth focus attention on the vulva, though the absence of breasts suggests a degree of ambiguity. One rock face shows women carrying an implement, possibly a hoe. Some of the caves are charged with ritual atmosphere to judge by their specificity of imagery. One cave, for instance, depicts only pregnant women, whereas only tattooed women appear in another. Male figures, by contrast, are stick-like representations and they are shown hunting or dancing in groups, but they too can be tattooed. Some are also shown wearing head-gear. Of particular interest are images that morph animal and human features, a common practice amongst many prehistoric communities, which may represent shamans – the intermediaries between this world and that of the spirits.

⁹³ Djararadzze 1973.

⁹⁴ For a critical review, see Whitley 2011.

⁹⁵ Farajova 2009: 148.

Farajova's other artistic periods include the Neolithic, characterised by horses and oxen, and the Eneolithic, distinguished by deer and goats.⁹⁶ The Bronze Age, according to Farajova, is replete with goats, whose images are often quite elaborate, and should also be ascribed the representations of wheeled vehicles and horse riders. But the attribution of vehicles with spoked wheels to the fourth millennium is incorrect and better accommodated to the first millennium BC (Iron Age), or later, when schematic and armless anthropomorphic figures were apparently represented. It is also unlikely that the camels, if they are camels, were rendered in the second millennium.⁹⁷ Finally, tamgas (abstract symbols of kinship groups), and Islamic inscriptions and images characterise the Medieval to the modern era (100–1800). A Persian inscription of the thirteenth–fourteenth century records the cultic function of the site. Medieval and Iron Age artists also depicted scenes of the butchery of animals, which have been compared with those on the Mongolian petroglyphs. These later images, which also include hunting scenes on horseback, are generally rendered in a more schematic fashion and with less artistic flair.

Images were only part of the landscape that would have inspired reflection on the numinous. The natural rock formation, jagged, gnarled, and eroded into evocative shapes, would have played a similar role. Another feature of the Gobustan landscape are cone-shaped cupules carved out of horizontal rock surfaces, possibly used to grind pigments. There are also larger depressions, usually rectangular with rounded corners, sometimes with gouged furrows leading into them. These are suggestive of vats. Settlements have also provided significant evidence. At Gayaarasi, for instance, a large amount of gazelle bones attest to its role as a centre for the processing of meat.

Any attempt to explain the ritual associated with the Gobustan carvings must take into account three of the site's distinguishing features: first, the concentration of images in the caves and shelters of the three hills, which highlights the importance of the place itself; second, the presumed longevity of use that almost surely argues against the idea that the site is framed by one ritual process; and third, the overwhelming amount of vivid animal imagery, assumed to date to the Upper Palaeolithic. Here I shall comment on these earliest images.

Since the first discoveries of rock art in Europe in the nineteenth century, there have been many attempts to understand the meaning of parietal art and probe the minds of its creators. Today most authors are firmly in agreement that we cannot apply the principles of traditional Western art appreciation,

⁹⁶ Farajova's (2009: 164–5) absolute dates, especially the later ones, are misleading and do not tally well with our current understanding of cultural development. Thus, Neolithic (7000–6000 BC), Eneolithic (6000–4000 BC), Bronze Age (4000–3000 BC), Iron Age (2000–1000 BC), and medieval to the modern era (100–1800).

⁹⁷ On present evidence, the origins of camel hybridisation can be attributed to the early first millennium BC, see Potts 2004.

developed in the eighteenth century, to the study of prehistoric art and non-Western art generally. The fundamental difference is one of purpose. Whereas Western art is concerned with the effect a work has on the viewer, which is repeated and communicated each time it is viewed, much non-Western art bears upon the affecting qualities of the artwork and its production.⁹⁸ It is not the finished product that is most important, but rather the capacity of the art, its delineation and the activities associated with its creation, such as dancing, to invoke the spirit world, or reaffirm kinship connections, especially with ancestors. In this sense, notions of place and identity are of primary concern. A site like Gobustan, with its concentration of petroglyphs, revisited a multitude of times over the millennia, must have had social and emotional meanings that were deeply embedded in its features and in the psyche of the people. Moreover, its regeneration and elaboration over time through the addition of carvings highlight the sense of place and its implications for identity and meaning, and ultimately for the wellbeing of its users.

Given the predominance of animal imagery, one could also argue that the communities who produced the art at Gobustan had an affinity to animism, as do certain contemporary indigenous communities around the world. Animism should not be viewed amongst the 'coherent and explicitly articulated doctrinal systems', as Ingold notes, but rather considered as a belief system with 'orientations that are deeply embedded in everyday practice'.⁹⁹ In such a world, animals would be agents with powers of sentience – the ability to feel, perceive, or experience subjectively. From this perspective, those rock shelters or sites with specific animal imagery (such as aurochs or deer) would themselves become agents with whom people needed to communicate through ritual. Another interpretation is that ritual at Gobustan might well have involved an intermediary, such as a shaman. The role of shamans in prehistory and its connection with art has been a vociferously debated.¹⁰⁰ To judge by modern ethnographic records, a shaman would have mediated between worshippers and the spirit world, or healed illnesses, or even practised sorcery. Shamans were reputedly possessed by spirits, which they incarnated, and were often portrayed in images as neither entirely human nor entirely animal. Most scholars now agree that shamanic behaviour was based on achieving altered states of consciousness that could be achieved through rhythmic sound, vigorous dancing, sensory deprivation, or the ingestion of a hallucinogenic substance.

In Dagestan, the Buynaksk images are grouped in seven panels separated from each other by no more than 1.7 m. In all but one cluster, Group VI, devoted to wheeled vehicles, animals are the focus of the art (Figure 2.12).

⁹⁸ Winter 2002.

⁹⁹ Ingold 2000: 112.

¹⁰⁰ For various views on shamanism, see Furst 1972; Lewis-Williams 2002; Lewis 2003; Eliade 2004; Aldhouse-Green and Aldhouse-Green 2005; Bahn 2010.

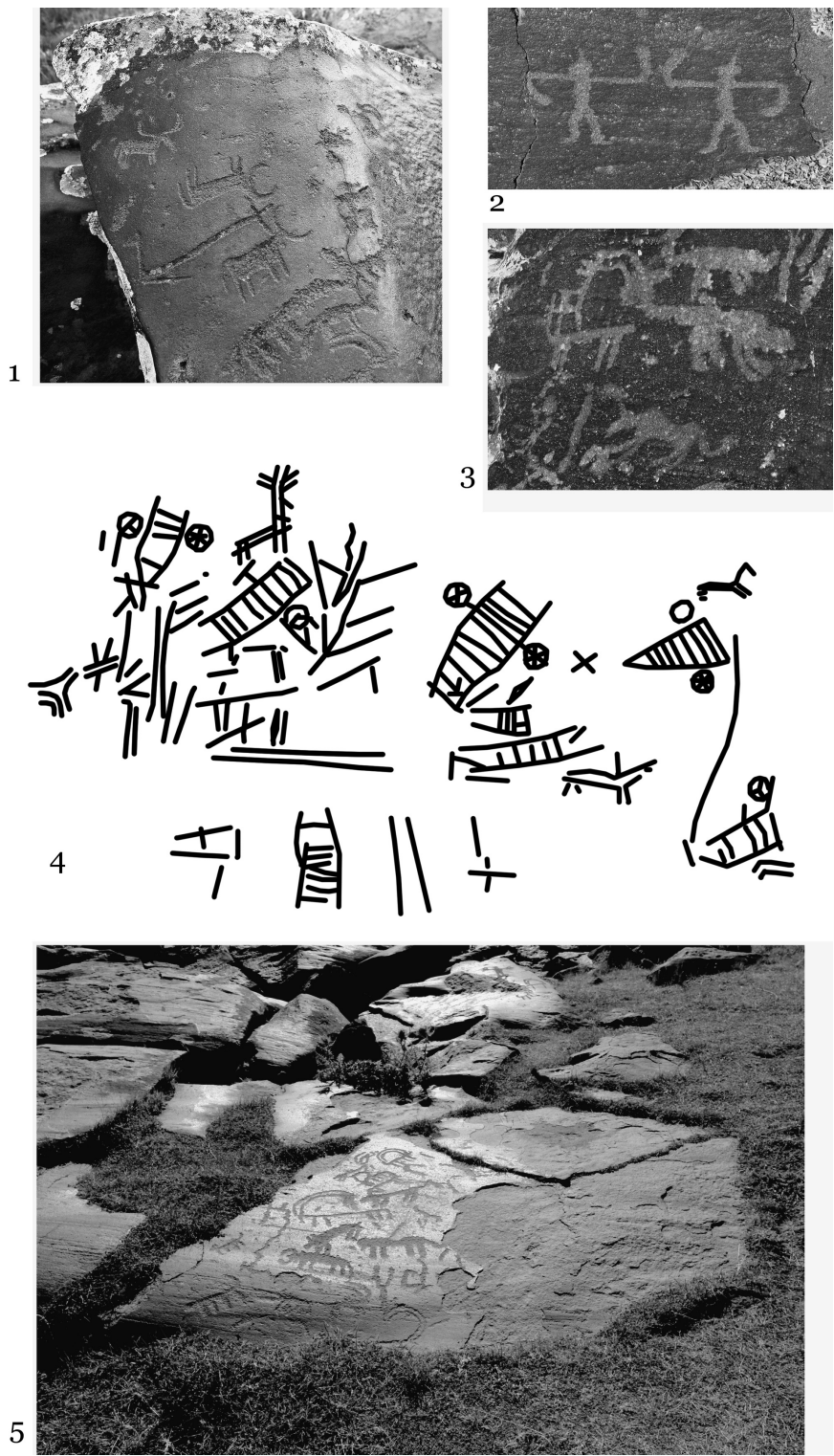


Figure 2.12. A selection of petroglyphs from Dagestan (4) and the Syunik region (1–3, 5), Armenia (after Markovin 1961, and Wikimedia Commons).

The rendering of the animals is quite schematic, and in the case of the deer, for instance, emphasis is placed on its large branching antlers rather than its long, narrow body. Similarly, the curving horns of mountain goats are the visual point of attraction. Group VII shows a menagerie of animals of different sizes, some no doubt fill-in motifs, with most facing to the right. Dating these Dagestani images is almost impossible without the aid of scientific techniques, though early work assigned them mostly to the Bronze Age and Iron Age. This dating would be correct for the images of vehicles fitted with spoked wheels.

The parietal art at Mgvimevi Cave, in Georgia, is quite different. Its Upper Palaeolithic inhabitants depicted, randomly it seems, non-figurative motifs of circles, dots, and criss-crosses, and they made use of suggestive natural depressions within the walls of their home. Not far away, the Palaeolithic cave complex at Agtsa, near the village of Abukhva, has similar images. Different again are the Trialeti petroglyphs discovered in the 1880s and only re-discovered in the 1970s. About 100 images, clustered into six panels, are carved across 50 m of a flat basalt surface in the Avdristskali (formerly Patara Khrami) Gorge, near the town of Tsalka. Animals are the most common depictions and include deer, horses, mountain goats, birds, and fish, as well as hybrid creatures. Human figures, equipped with bows and arrows, are depicted in hunting scenes, and are diminutive in comparison to the animals, measuring between 2.5 and 20 cm in length. The third category of motifs is geometric signs, especially crosses, chequerboards, and sunbursts. Like most petroglyphs, the Trialeti images were probably engraved over a number of periods and they have been assigned a range from the Mesolithic to the Middle Bronze Age. In general, those images attributed to the Mesolithic are more sinuous in outline with a sense of motion, especially evident with mountain goats, whereas later images tend towards the angular and static. Animal images of all periods are schematic and shown side-on, with certain elements, such as antlers, often emphasised. One touching scene shows a female deer giving suck to its young, whereas elsewhere animals are shown entangled in a hunter's net. Less attention is given to the hunters, who are represented front-on and far more schematically than the animals. They stand motionless, clasping their weapons in the left hand. Occasionally, a wounded prey confirms their skilfulness as hunters.

All the Armenian rock carvings are located at high altitudes, but those at Ukhtasar, situated within an extinct volcano at Syunik in the south-eastern region, at 3,300 m asl, are the highest (Figure 2.12). Discovered in the 1960s, the site comprises images carved on the flat surfaces of dark basalt blocks that have been polished through glacial action.¹⁰¹ The blocks form parts of rocky streams that are strewn across the landscape, though whether there is any geographical patterning remains to be seen. Recent collaborative work is attempting to record the images precisely and situate them within the natural features

¹⁰¹ Karakhanian and Safian 1970.

of the rugged landscape, paying particular attention to their composition, construction, and relationship to one another.¹⁰² The carvings are approximately dated from the fifth to first millennia BC based on artistic style. Although the scenes recall rock art from elsewhere in the Caucasus, these Ukhtasar images do have a flavour of their own. Animals are once again a common theme. Caucasian ibexes (turs) and their sweeping horns, one of the best represented figures, are intermingled with a menagerie of other animals, including deer, cattle, horses, and even big cats. Hunters equipped with bows are also shown, as are a range of abstract signs and wheeled vehicles. Even though the earliest images were carved in the early Chalcolithic period, domesticated animals are not depicted. As in Anatolia, it is the encounter with the 'wild' that most attracted these early artists, while in the Bronze Age, technology and weaponry appears to have gained importance.

CONCLUSION

This survey has shown that the Caucasus is replete with information that touches on many topics that are germane to the evolution of humans from about 1.8 million years ago. This earliest period saw the emergence of *Homo ergaster*, which in terms of physical appearance and social organisation, was essentially modern, much more so than its predecessors the australopithecines and *Homo habilis*. Despite their heavy prognathic jaws, large brow-ridges, and receding foreheads, *Homo ergaster* were larger-brained than their predecessors and co-operated more like later hunter-gatherers. The fossil-bearing deposits at Dmanisi are of extraordinary significance not only for the quantity of remains associated with *Homo ergaster*, but also because of their geographical location, some 4,300 km from East Africa, as the crow flies, where the hominin species is thought to have emerged. These finds have caused us to rethink the nature of the dispersal of hominins out of Africa and the evolution of the genus *Homo*. In question is whether the variation in species of this period in Africa and elsewhere represents palaeodemes or palaeospecies.

The next stage in prehistory, extending from the past 400,000 years of the Pleistocene up to the end of the last Ice Age (ca. 11,500 years ago) is dominated by the rise of the modern human and the demise of all other hominin species. In the Caucasus, the earliest stage of this interlude is represented by a few sites, amongst them Kudaro in the South Ossetian Mountains, which have produced the hallmark bifacial tool – the Acheulean hand axe. Behaviour continued to change, as did technology and the landscape, with changes in climate – from dry-warm to humid conditions – reflected by variations in vegetation and animals.

¹⁰² Recent collaborative projects to record the Ukhtasar art include the Ukhtasar Rock Art Research Project (Stevens 2011) between Reading University and Armenian authorities, and an Armenian-German initiative (Meller et al. 2011).

Western Georgia engendered a variable system of settlement and subsistence in the Middle Palaeolithic. The dissected nature of the terrain and diversity of localised resources promoted a cycle of abandonment and settlement that is reflected in the heterogeneous nature of the stone industries. Once thought to be tangible evidence of cultural groupings, the varied technological assemblages most likely reflect responses to local resources and the natural environment. The collective evidence from the three sites of Djruchula Klde, Ortvale Klde, and Tsutskhvati enables us to understand local conditions prior to the Middle to Upper Palaeolithic transition and place them in a more global perspective. An emerging view contends that the southern Caucasus, like the Iberian Peninsula and the Crimea, harboured Neanderthal communities well after they disappeared from most other parts of Europe. Why this should have happened is not clear, but the favourable climatic conditions and diverse landscape probably played a part. Although the precise dating of these sites has not yet been finalised, early results and field observations suggest that Djruchula Klde can be correlated with OIS 7, OIS 6, or perhaps as late as OIS 5e. This would place it significantly earlier than both the Tsona Cave and Ortvale Klde. The temporal relationship between Tsona and Ortvale, however, is more problematic. Even so, Tsona Cave seems to be leaning towards the Early Glacial and Ortvale Klde should be placed in the Interpleniglacial.

Neanderthals and the Middle Palaeolithic are well attested in the Caucasus. These hominins, previously maligned as a brutish exponent of humanity, do in fact demonstrate considerable advances in cognition and behaviour. Proof of this is their innovative stone tool industry and use of the Levallois technique, which required a detailed and preconceived notion of the end product. The Caucasus at this time appears to have been a cul-de-sac. Its mild climate, particularly in western Georgia, harboured a wide range of resources, and the Neanderthals, who knew their landscape fully, exploited what it had to offer.

The transition between the late Middle Palaeolithic and the Upper Palaeolithic remains blurry. Even so, two traits are observable. One is an oscillating climate – harsh stadials (especially in OIS 3), represented by sterile layers in many archaeological sequences, and mild interstadials. The other feature is the pattern of settlement and temporary abandonment of sites followed by re-settlement. These two elements cannot be linked definitively at present, but the impact of climate change on both human and animal communities may have been considerable. A climatic model that claims Neanderthal communities moved south during severe conditions could also explain the affinities the south Caucasian stone tool assemblages have with sequences in the Near East. This account also supports the view that the transition between the end of the Middle Palaeolithic and the Upper Palaeolithic was speedy and abrupt, and occurred about 32,000 years ago.

New innovative stone technology in the form of long blades, bladelets, and a series of micro-tools arrived at several sites in both the Caucasian northern

foreland (Mezmaiskaya Cave) and the southern Caucasus (Dzudzuana Cave). At Ortvale Klde, the two assemblages are technologically and typologically very different, arguing strongly against a local evolutionary transition. It is noteworthy that a largely identical assemblage of stone tools appeared at the same time at Mezmaiskaya Cave, indicating that Upper Palaeolithic communities rapidly penetrated the north-western Caucasus by following the eastern Black Sea coastal strip. These new ideas were accompanied by behaviour that was truly modern and a broad spectrum of hunting strategies. Compared to recent studies carried out at cave sites, research on rock art and its cognitive implications lags far behind. Despite the multitude of images, their chronology remains quite loose and their purpose has yet to be framed within appropriate theoretical models.

Finally, the tail end of the hunter-forager period, the Mesolithic, is seen essentially as an extension of the Upper Palaeolithic traditions. Sites in the northern and southern Caucasus differ in their toolkits, with the former showing similarities with the Crimea. Generally speaking, the early Mesolithic toolkit is characterised by an abundance of microliths, with the northern Caucasus preferring geometric microliths, especially trapezes, in the later period. Projectile points, fairly common in other parts of the Old World, are rare in the Caucasus. Hunting strategies differed between the regions on either side of the mountain range. In the south, communities hunted large mammals, showing a break with early periods, whereas the hunters of the northern steppes targeted smaller mammals.

CHAPTER 3

TRANSITION TO SETTLED LIFE: THE NEOLITHIC (6000–5000 BC)

INTRODUCTION

The Holocene ushered in an improvement in climatic conditions across the Near East and Europe, which prompted major social, economic, and ritual transformations that eventually led to a sedentary way of life based on farming and herding.¹ This process of Neolithisation is often associated with a package of material culture, including the founder crops (emmer and einkorn wheat, and barley) and domesticated animals (sheep, goat, cattle, pigs), and an array of stone and bone tools. Although this package is readily identifiable across vast areas, suggesting a transfer of knowledge between communities, no two packages are exactly alike.

Neolithic technology and innovations arrived late in the Caucasus when compared to its southern neighbours, and lasted about 1000 years, or possibly longer. Recent clusters of absolute dates derived from secure deposits confirm that the Pottery Neolithic period can be bracketed within the sixth millennium BC.² This timeline supersedes the earlier reckonings, formulated on a limited number of uncalibrated readings and artefact typology, that suggested a lower chronology covering the fifth millennium BC with the origins of the Pottery Neolithic assigned to the very end of the sixth millennium BC.³ The

¹ Cauvin 2000; Zeder 2011; Zohary et al. 2012.

² Nishiaki et al. 2015. The earliest radiocarbon reading from Mentesh Tepe (Lyonnet et al. 2012: 88) points to a genesis in the last centuries of the seventh millennium, but we must await further details before we stretch the chronology to that extent; see also Lyonnet 2007a.

³ Munchaev 1982: 102; Kiguradze 1986; Narimanov 1987; Kushnareva 1997: 13–41. This uncertainty over chronology has continued; compare, for example, Table 1 in Lyonnet 2007a, which places the Caucasian Neolithic in the period 6500–5000 BC with Kohl and Trifonov (2014: fig. 3.11.3), who assign it to 5400–4300 BC.

new timeframe indicates that pottery-using Neolithic farmers appeared in southern Caucasia, where the earliest and strongest expressions of agricultural communities are to be found, at roughly the same time as the Halaf tradition established itself in northern Mesopotamia.⁴ In Anatolian terms, the sixth millennium BC is coeval with the Early Chalcolithic.⁵

The adoption of agricultural practices in the Caucasus forms a complicated picture that began in the south and spread across the region in a staggered fashion. Novel cultural elements arrived on the scene and with them came new values and opportunities. The establishment of early villages poses several matters to consider. Amongst them are how space in a built environment reflects behavioural traits, the nature of the transition from a food gathering economy to an agricultural subsistence based on food production, and the rather sudden emergence of pottery-using farming communities in the southern Caucasus. Was this Neolithic tradition, for instance, the result of immigrant groups bringing with them the idea of agriculture, or was it a case of indigenous Mesolithic communities gradually adopting farming practices as knowledge dispersed from the core localities in the Near East? Or perhaps it was less clear-cut than this, a situation where foreign farmers and local hunter-foragers intermingled?

Related to these questions is the important topic of whether the Caucasus developed a Pre-Pottery Neolithic phase. The quantity of pottery recovered from the earliest Neolithic deposits is small, which is at odds with the amount produced in contemporary northern Mesopotamia and Anatolia, where the craft was well established by the sixth millennium BC. This alone suggests that, although the appearance of sedentariness in the Caucasus was dramatic, it was not necessarily a fully-fledged arrival.

Nikolai Vavilov, the prominent Russian botanist, defined the Caucasus as a centre of the earliest cultivated plants and one of the world's heartlands of food plant diversity, yet the region has not been part of the broader discussions on the Neolithic.⁶ The trajectory in recent decades has emphasised the accomplishments of the first sedentary communities along the Levantine corridor and in Anatolia, and the eventual spread of farming into south-eastern Europe.⁷ In recent years the hilly flanks of the Zagros have re-entered

⁴ Castro Gessner 2011.

⁵ Sagona and Zimansky 2009: 124–43.

⁶ Vavilov 1992. Tragically, Vavilov died in a Stalinist prison in 1943 (Pringle 2008). For overviews on the south Caucasian Neolithic, see Kiguradze 1986; Narimanov 1987; Chataigner 1995; Kiguradze and Menabde 2004; Chataigner et al. 2014. For western Georgia there is Nebieridze 1986.

⁷ For Anatolia we have some excellent region-specific studies in the multi-volume work by Özdoğan et al. 2011–13. Shorter overviews on Anatolia can be found in Sagona and Zimansky 2009: 37–123 and Düring 2011: 47–199, whereas the spread of farming into south-eastern Europe is dealt with in Lichter 2005.

the discussions.⁸ But the interchange these core areas had with communities situated on their periphery, in south Caucasia, has seldom been discussed.⁹ Even less attention has been devoted to the degree of interaction the south Caucasian farmers had with their neighbours beyond the mountains to the north, whose lifestyle drew on influences from the Eurasian steppes.

THE FIRST FARMERS

The Neolithic arrived in the Caucasus some 3500 years after the earliest manifestations in south-eastern Anatolia.¹⁰ When farmers began to settle in the Kura-Araxes interfluvium they brought with them traditions altogether different to those found in Anatolia and the Zagros Mountains. Entirely missing, for instance, are the imposing monumental public buildings, vibrant art, and distinctive cultic practices that distinguish Göbekli Tepe and Nevalı Çori. Nor do we find settlements of tightly packed rectilinear houses such as those that feature in central Anatolia. Instead, in the south Caucasus, communities developed their own regional culture that has certain affinities with traditions in northern Mesopotamia and north-western Iran.

Generally speaking, three Neolithic traditions can be distinguished in the Caucasus based on house and settlement types, and their associated cultural and economic traits. From south to north they are as shown in Figure 3.1.

1. The central and southern regions of the south Caucasus. This is the most thoroughly studied tradition. It comprises a cluster of settlements attributed to the so-called Shulaveri-Shomutepe culture, which reached from south-east Georgia and the steppes of western Azerbaijan, through the Ararat Valley to the region of Nakhichevan.
2. Western Georgia and the Black Sea. This region is poorly understood, but its scattered empirical evidence has fuelled the debate over the existence of a Pre-Pottery Neolithic period. Sites are concentrated in the well-circumscribed area of Colchis, and situated in the foothills rather than the marshy lowlands. Settlements extend along the coast from Novorossiisk to Batumi.
3. The central and northern Caucasus. The area stretches from the Surami massif through south and north Ossetia to the foothills of the northern Caucasus, where a few sites are scattered across the wide piedmont region from Krasnodar to Kalmykia and Dagestan.

⁸ Matthews et al. 2013.

⁹ See Helwing 2014 for a recent discussion of the south Caucasian Neolithic within the context of early farming communities east of Anatolia.

¹⁰ For nearby Ukraine, we have Kotova 2003.

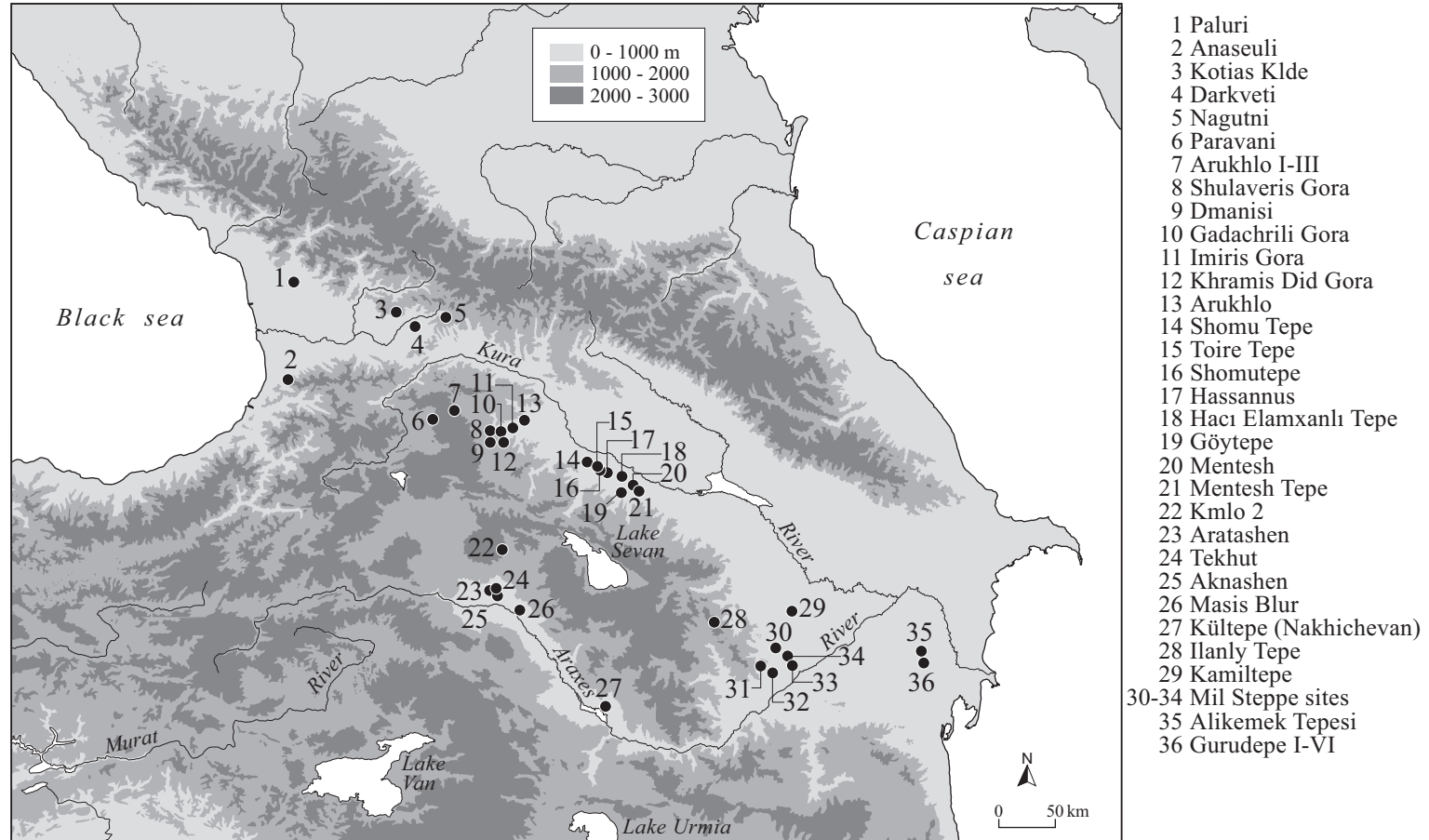


Figure 3.1. Map showing the main Neolithic sites (drawn by C. Jayasuriya).

A PRE-POTTERY NEOLITHIC?

The interlude between the readily identifiable assemblages of the Mesolithic and the Pottery Neolithic is not easy to determine. This uncertainty derives from the disturbed contexts of what are assumed to be Pre-Pottery Neolithic deposits, fragmentary evidence that is almost entirely based on stone tools typology, and an absence of chronometric dates.¹¹ Furthermore, we have no built structures, nor any systematically collected samples of animal bones and botanical remains. There are two regions that we need to consider: the central and southern Caucasus, and western Georgia and the Black Sea.

In the south Caucasus, studies on the Pre-Pottery Neolithic largely involve obsidian tools collected from open settlements on the shores of Lake Paravani, the rock shelter at Dmanisi, and sites of the Nagutni horizon located in southern Ossetia.¹² To this can be added the material collected on the Tsalka Plateau and more recently from the Kmlo-2 rock shelter in western Armenia.¹³ The Nagutni sites – Nagutni I, Nagutni II, Zura-Akho, and Jijoeti – were first studied in the 1960s by Liubin, who attributed these one-period sites to the very end of the Mesolithic (or ‘Proto-Neolithic’), largely based on the absence of ceramics, polished tools, querns and mortars, and sickle hafts.¹⁴ Although we now know these are not legitimate criteria by which to define the Pre-Pottery Neolithic, they did serve to place the assemblages in roughly the right timeframe. The stone industry is overwhelmingly one of flake tools; parallel-sided blades are very much in the minority (Figure 3.2). Especially characteristic are scrapers and hooked tools, used as burins or spoke shaves, struck off conical and flattened cores. Both scrapers and hooked tools display considerable re-working. Squamous or parallel retouching was applied to both surfaces, but predominately on the bulbular side.¹⁵

Connections in typology and production techniques have been drawn between the Nagutni lithics and the even earlier Mesolithic assemblages on the one hand, and the chipped stone industry of the Paluri group in western Georgia on the other. Each group has side scrapers, hooked tools, side-retouched blades and ‘Kukreki’ sickle blades (Figure 3.2). Collectively, the tools also display a high degree of re-touch, generally applied to the lower half. Even so, significant differences are apparent. The Mesolithic tool kit is essentially microlithic and its blades were struck off flat, prismatic, and conical cores. This stands in contrast to Nagutni-Paluri flake industry that has also been found in the Kavtura river valley near Tsikhiagora.¹⁶

¹¹ Rostunov et al. 2009: 67–9 questions the evidence for a Pre-Pottery Neolithic in the southern Caucasus.

¹² Liubin 1966; Kikodze and Koridze 1978; Gogelia 1982.

¹³ Kiguradze and Menabde 2004: 352; Arimura et al. 2009, 2010.

¹⁴ Liubin 1966.

¹⁵ Liubin 1966: 163.

¹⁶ Chelidze 1990.

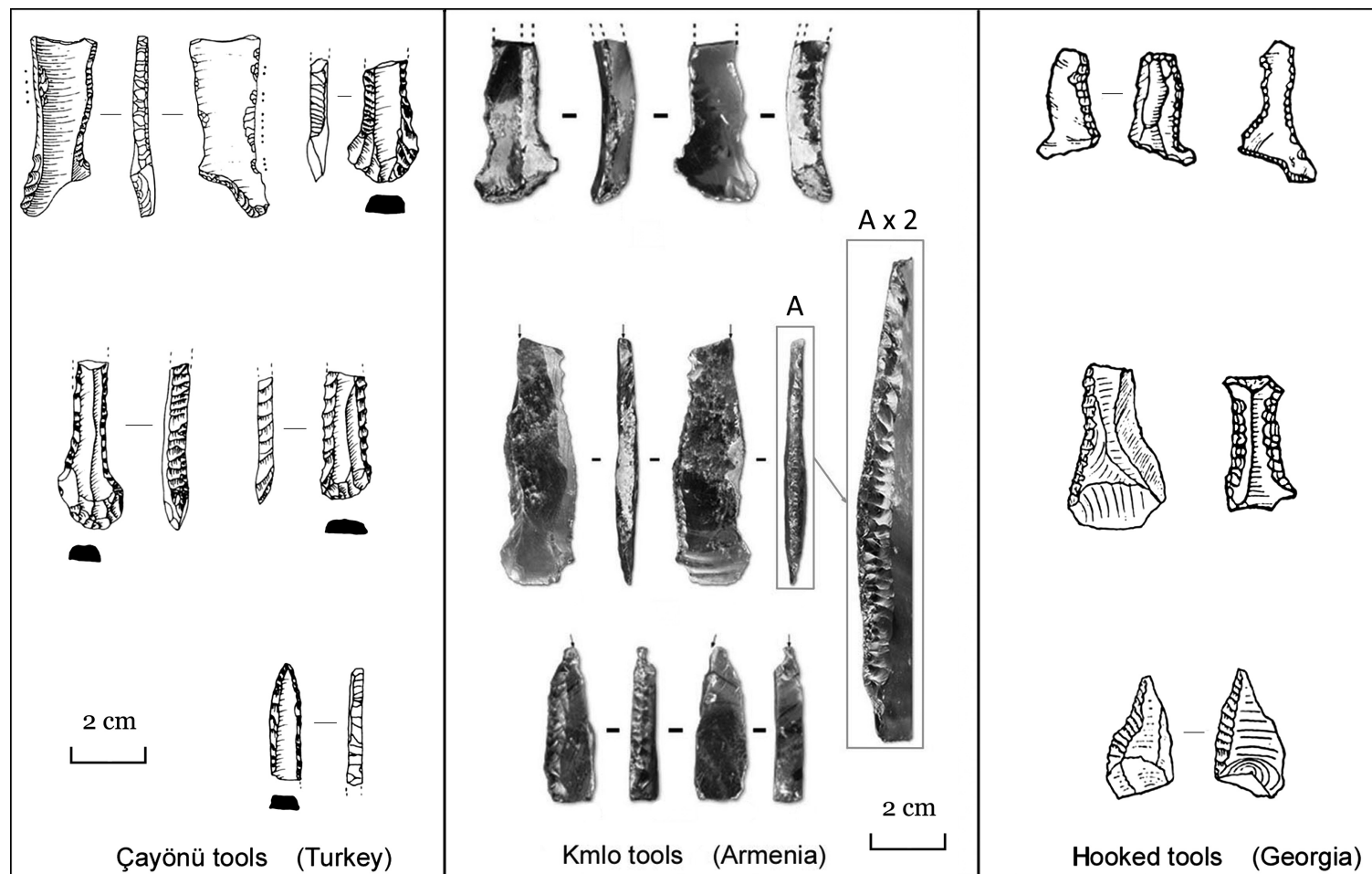


Figure 3.2. Comparative stone tools from Çayönü, Kmlö-2, and Georgia (after Arimura et al. 2010).

Paravani I and Shaori have a different character. Both are located very close to rich obsidian sources, and the amount of splinters made from rejuvenation cores suggests that they are probably workshops. Paravani I is a large rock shelter (ca. 18 m x 7 m) with an obsidian tool kit of geometric microliths and retouched blades, whereas Shaori, on the Tsalka Plateau, is distinguished by many massive flakes, segmented tools fashioned from large blades, and a variety of piercing and incising tools. Different again is the Dmanisi rock shelter assemblage, which includes conical cores, a variety of blades and scrapers, and chisel-like tools, but only a few microliths. The technique of consecutive blunting and sub-parallel blunting found at the Paravani and the Paluri-Nagutni sites is a feature they share with the Pre-Pottery Neolithic sites in the Near East such as Çayönü Tepesi in south-east Anatolia and Tell Magzalia in Iraq.

The recent reports on Kmlo-2 clarify this situation somewhat. It was occupied sporadically in the 'Mesolithic/Early Neolithic' over some 7,000 years: eleventh–tenth millennia, ninth–eighth millennia, and sixth–fifth millennia cal BC.¹⁷ The chipped stone industry was entirely manufactured from obsidian pebbles transported by river from the nearby Tsaghkunyats outcrop to the north, or nodules sourced from deposits further afield to the east. Geometric microliths feature prominently in the tool kit, especially lunates, backed blades and scalene bladelets (Figure 3.2). The excavators also draw attention to the so-called Kmlo tool, characterised by pressure flaking along the retouched edges, which recalls the hooked implements reported in early studies from Georgia. Although radiocarbon readings place these tools within the same timeframe as the 'Çayönü points' found across south-eastern Anatolia and once thought to be the tradition from which Georgian 'hooked tools' derived, technological differences between the Çayönü points and the Kmlo-2 tools do not support the link.¹⁸ The Kmlo-2 tool appears to be a local invention of highland Armenia that emerged in the early ninth millennium BC and continued through the entire sequence to the fifth millennium, which is defined by Chalcolithic pottery sherds.

Whether or not Kmlo-2 had a Pre-Pottery Neolithic site is another matter. The absence of domesticated cereals and animal remains and the preponderance of wild species (ibex, moufflons, and deer), as well as the lack of ground stone tools and architecture, speaks of a Mesolithic rather than a Neolithic tradition.¹⁹ The fact that Kmlo-2 was occupied during the sixth–fifth millennia BC raises the intriguing possibility that certain pockets of the southern Caucasus harboured the co-existence of late Mesolithic hunter–forager and Neolithic villagers. Summing up, then, certain Georgian sites have a material culture that appears to differ from both the Trialetian Mesolithic and the Pottery Neolithic traditions, enough to warrant their provisional status as

¹⁷ Arimura et al. 2010: 77.

¹⁸ Kiguradze and Menabde 2004.

¹⁹ Nishiaki et al. 2015: 281.

transitional sites, but far more rigorous evidence and secure radiocarbon readings are wanting.²⁰ Moreover, the Kmlo-2 evidence implies that the transition was most likely not uniform across the southern Caucasus.

Western Georgia

The situation in western Georgia and the Black Sea is even more elusive. Ironically, the site of Odishi, located on a plateau between the village of the same name (formerly Ledgebia) and Kortsikheli, was the first settlement south of the Caucasus dubbed Neolithic. Aleksandr Kalandadze conducted excavations at Odishi in 1936 and Lamar Nebieridze later studied the material in more detail.²¹ Kalandadze discerned two layers – one layer belonging to the Mesolithic, and another layer attributed to the Neolithic. In the decades that followed, a welter of sites reputedly with Neolithic occupation levels was reported: Urta, Kistriki, Mamati, Sagvardzhile, Anaseuli, and many more besides (Figure 3.1).²² Very soon, chronological schemes began to proliferate. Without any chronometric dates to anchor them, the material culture derived from thin and poorly differentiated deposits, in some cases disturbed, soon took on the appearance of a slippery and fugitive tradition.

One scheme, proposed by Aleksandr Formozov, argued for a transition from the earlier Mesolithic to pottery-producing and fully fledged farming societies.²³ Nebieridze, too, divided the Neolithic of western Georgia into two phases, but saw no Mesolithic archaisms. Her Early Neolithic includes Odishi, Kistriki, Anaseuli I, and Nizhnyaya Shilovka II, which were followed by the so-called Sochi-Adler group of the Late Neolithic.²⁴ Grigolia suggested yet another scheme.²⁵ A reconnaissance across several geographic zones in western Georgia led him to distinguish between Pre-Pottery Neolithic sites, situated mainly along the coastal strip and in the foothills of the Rioni-Kvirila basin in central Colchis, and later and different ceramic-producing villages situated in the plain. To the Pre-Pottery Neolithic, attributed to the second half of the seventh millennium BC, he assigns the open settlements at Tkaia-Lebiqvi and Paluri (Tsalenjikha), and the Darkveti rock shelter.²⁶ Charred cereal grains were reported, as well as the occasional bones of domesticated cattle and

²⁰ Kozłowski 1996.

²¹ Kalandadze 1939; Nebieridze 1972.

²² For a history of research on the Neolithic in western Georgia, see Meshveliani 2013: 61–2.

²³ Formozov 1965.

²⁴ Nebieridze 1972: 108–18; 1986.

²⁵ Dzhevakhishvili 1971; Grigolia 1977. See also Kiguradze and Menabde 2004: 349–51; and K. S. Kalandadze (1984: 19), who splits the Pre-Pottery Phase into an Early and Middle Neolithic.

²⁶ Grigolia 1977; Nebieridze 1978.

sheep/goat, but the circumstances of their discovery are problematic.²⁷ Apart from Kamenomostkaya Cave in the north-west Caucasus, where the Upper Palaeolithic level is covered by a Neolithic deposit, these sites are open-air settlements.²⁸ Yet no evidence of structures has come to light apart from light post structures with a stone hearth in the centre reported from Kistriki, where charred cereals (not identified) were recovered in a pit.²⁹ Pebbles with two grooves (sinkers) might suggest fishing also formed part of the economy.

Not everyone was convinced by these arguments. Aleksandr Dzhavakhishvili was the first to express scepticism, contending that the sub-tropical environment of the Colchian lowlands would not have been conducive to early farming.³⁰ Although Nebieridze does not see humid climate as a restrictive factor for an agricultural economy, she does admit that the heavy rainfall and erosion have not been favourable to the preservation of bones and other organic matter. Environmental factors aside, it is the insecure contexts that have made it difficult to assess the situation. Nizhnyaya Shilovka, Odishi, Kistriki, and Anaseuli II, for instance, have later material mixed in their single cultural and supposedly Pre-Pottery deposits.³¹

Despite these concerns, other researchers have had little choice but to follow these findings.³² It is with this confusing situation in mind that Tengiz Meshveliani conducted a series of exploratory trenches in 2008–10 at a number of key sites – Anaseuli I, Gurianta, Urta, Kobuleti, Odishi, and Paluri – to test the veracity and nature of the western Georgian Neolithic.³³ His results are as startling as they are revealing. None of the sites, Meshveliani maintains, produced evidence that could be considered permanent. These are temporary stations represented by finds scattered thinly across the surface, with only a few items embedded in a thin layer (ca. 3–5 cm) of topsoil.

Furthermore, the lithics from Anaseuli I, Khutsubani, and Kobuleti bear no similarities to known Neolithic industries, and instead fit comfortably within the late Upper Palaeolithic and Mesolithic traditions. Overwhelmingly manufactured from Chikiani obsidian, stone tools include geometric microliths, scrapers, and burins. The only items that reflect a Neolithic character are the few polished tools from Odishi, which herald a new technology. Even so, these findings do not explain the grit-tempered ceramics, some with incised and serrated lips that foreshadow Sioni ware, discussed in Chapter 4.³⁴ The

²⁷ Solov'ev 1967.

²⁸ On Kamenomostkaya cave, see Formozov 1965.

²⁹ Solov'ev 1967.

³⁰ Dzhavakhishvili 1973: 14–15.

³¹ Meshveliani 2013.

³² Kiguradze and Menbade 2004; Sagona 2010; Kohl and Trifonov 2014.

³³ Meshveliani 2013: 62–70.

³⁴ Nebieridze 1972, 1987. I would like to thank Lamara Nebieridze for showing me a selection of these ceramics.

latest fieldwork, then, indicates that Mesolithic traditions seem to have persisted in this region long after sedentary settlements with an agricultural economy appeared elsewhere in the southern Caucasus. The boundary between the Mesolithic and Neolithic in western Georgia therefore remains quite foggy.

The earliest Neolithic in western Georgia is situated in caves – Kotias Klde (Layer A), Samele Klde, Samertskhle Klde, Sagvardzhile, and Dzudzuana Klde (Layer A) – some of which have hitherto been labelled as ‘Eneolithic’ or even Early Bronze.³⁵ These have not been published in any detail and the only firm absolute dates amongst them are five calibrated readings for Unit A at Dzudzuana, most of which fall within the seventh millennium BP.³⁶ Remains at Dzudzuana include evidence of woodland clearance and cereals, and the manufacture of projectile points and sickle blades. Layer A2 at Kotias Klde revealed a shallow pit house with a chipped stone industry of transverse projectile points, various types of retouched denticulates, and flake scrapers that have been compared to the assemblages at Darkveti rock shelter and Paluri.³⁷ Associated with this layer were two hearths, and 20 cm below them was the burial of an adult male, whose body appears to have had large stones intentionally placed on top of it. No chronometric dates are as yet available for Kotias Klde Layer A.

POTTERY NEOLITHIC: THE CENTRAL AND SOUTHERN CAUCASUS

The clearest expression of a Neolithic farming economy is found in the Kura-Araxes interfluvium, where some 150 Pottery Neolithic sites dot the landscape (Figure 3.1).³⁸ These early agricultural settlements have formed stratified mounds and are mostly located in the broad alluvial plains, occasionally on the top of undulating natural hills, in the valleys formed by the tributaries of the right bank of the Kura River, in particular the Khrami, Debed, and Akstafachai, in the Mil-Karabakh. Sites are spread along the ancient terraces of the Araxes River in Armenia, and extend into the Mugan steppes. Many are badly eroded or disturbed by modern land use and only a handful have been fully investigated and published in any detail. A good number of the settlements were established in proximity to each other, and were visible in the distance.

The Pottery Neolithic of the central and southern Caucasus is often referred to as the ‘Shulaveri-Shomutepe’ culture, after two key sites excavated in the

³⁵ Meshveliani 2013: 71.

³⁶ Bar-Yosef et al. 2011: Table 2.

³⁷ Meshveliani et al. 2007: 49–50.

³⁸ No thorough gazetteer of Neolithic settlements has been compiled, hence we have discrepancies – Kushnareva (1997: 21) mentions 150 sites, whereas Munchaev (1982: 100) refers to 70 sites.

late 1950s and early 1960s – Shulaveris Gora, on the Marneuli Plain in Georgia, and Shomutepe, situated in the Kazakh region of Azerbaijan.³⁹ Three groups can be distinguished in terms of geography, architecture and artefacts:⁴⁰

- One is located in the central region of south Caucasia, in the middle reaches of the Kura River, and incorporates the regions of western Azerbaijan and the neighbouring districts of Kvemo Kartli (Georgia). In addition to Shulaveris Gora and Shomutepe Tepe, other notable sites include Imiris Gora, Dangreulis Gora, Khramis Didi Gora, Gadachrili Gora, Tsopi, and Arukhlo I in Georgia, and Göytepe, Hacı Elamxanlı Tepe, and Mentesh Tepe in north-western Azerbaijan.⁴¹
- The second large nucleation incorporates sites within the triangle delineated by the Nakhichevan region, Mil Plain, and the Mugan steppes. Kültepe I (Nakhichevan) was the first site to show variance from the Shulaveri-Shomutepe group. We can now add Alikemek Tepesi located further east in the Mugan steppes, and Kamiltepe and Ilanlı Tepe in the Mil Plain in south-western Azerbaijan. The landscape around the Kara Çay, in particular, is peppered with Neolithic sites.⁴² Not surprisingly, this group of sites shows clear cultural contacts with northern Mesopotamia and Iran. They also developed an early metallurgical industry that was more advanced than that in Kvemo Kartli.⁴³
- The third group is located in the well-circumscribed Ararat Plain of Armenia. Newly defined through recent systematic excavations at Aratashen and Aknashen-Khatunarkh, the region clearly has a rich Neolithic tradition with its own imprint.⁴⁴ The early investigations at Tekhut and the ongoing work at Masis Blur help to define this cluster.⁴⁵

Tamaz Kiguradze divided the cultural development of the Shulaveri-Shomutepe group into five phases derived largely from typology of stone tools.⁴⁶ Even though the broad picture of the Shulaveri-Shomutepe tradition

³⁹ The Shulaveri and other Georgian sites were investigated by Aleksandr Dzhavakhishvili and Tariel Chubinishvili (Kiguradze 1986), whereas Shomutepe was excavated by Ideal Narimanov (1965, 1987).

⁴⁰ Munchaev (1982: 130) originally identified two (Shulaveri-Shomutepe and the Nakhichevan-Mil-Mugan groups). Following Narimanov, Kiguradze (1986: fig. 1) isolated seven smaller regions within these two broader zones, but this may be splitting the evidence too finely.

⁴¹ Region-specific syntheses can be found Kiguradze 1976, 1986, and Kiguradze and Menabde 2004 (for Georgia), and Narimanov 1987, 1992 (for Azerbaijan). See also Nishiaki et al. 2015, Hamon et al. 2016, and Lyonnet et al. 2016 for recent evidence.

⁴² Ricci et al. 2012.

⁴³ Narimanov 1987, 1992; Munchaev 1982.

⁴⁴ Badalyan et al. 2007 (Aratashen), 2010 (Aknashen-Khatunarkh).

⁴⁵ Martirosian and Torosian 1967: 52–62; Torosian 1976 (Tekhut); Martirosyan-Olshansky et al. 2013 (Masis Blur).

⁴⁶ Kiguradze 1976: 109; 1986: 95–102.

is apparent, there is debate over its evolution. Rauf Munchaev, for instance, points out that, apart from the appearance of triangular sickle blades in Stage III, the difference between Kiguradze's stages I–II represented at Shulaveri Gora and stages III–IV (contemporary with the upper levels at Imiris Gora) are not clear in terms of lithic technology.⁴⁷ The use of stone tool technology as the sole benchmark for differentiating the Kvemo Kartli sequence is also best avoided.

Houses and Settlements

Houses and settlements are central to the construction of a community's identity. The use of space in the domestic domain reflects the social tenor of a community. Activity areas, gender roles, wealth, and authority are some features of social behaviour that are reflected in the organisation of space. It has been shown that as societies became more complex, the use of space became more divided.⁴⁸ Not less significant is the layout of a village. The arrangement of houses within a circumscribed area and their spatial relationship to each other informs on circulation within the settlement and how its inhabitants interacted with each other. Tightly nucleated villages compared to settlements with dispersed structures could reflect kinship matters, or even the use and proximity of arable land.

THE KURA CORRIDOR

Although different field methodologies extending over more than half a century have resulted in a chequered archaeological record, we nonetheless have a fairly clear idea of the evolution of the south Caucasian Neolithic village.⁴⁹ Khramis Didi Gora is the largest Neolithic mound site, measuring about 4.5 ha, but most are typically small hamlets averaging about 1–1.5 ha in size. Deposits, however, can be substantial. Operations at Göytepe, for instance, have revealed an impressive unbroken Neolithic sequence of 11 m that has fourteen architectural levels. Radiocarbon dates reveal that this deep deposit accumulated over

⁴⁷ Munchaev 1982: 108.

⁴⁸ Kent 1990.

⁴⁹ Reports can be found in Dzhaparidze and Dzhavakhishvili 1971 (Shulaveri Gora and Imiris Gora); Chubinishvili and Kushnareva 1967, Chelidze and Gogelia 2004, Hansen et al. 2006, Hansen et al. 2007, Hansen and Mirtskhulava 2012 (Arukhlo); Narimanov 1987, Akhundov 2012 (Shomutepe); Guliyev and Nishiaki 2012a, 2012b (Göytepe); Nishiaki et al. 2015 (Göytepe and Hacı Elamxanlı). Regrettably, much of the archival documentation of the early excavations at Arukhlo, led by Tariel Chubinishvili (1966–76) and then Davit Gogelia (1978–85), was destroyed in a fire. The current Georgian–German project is consolidating what it can from the archival excavation field notes and other documentation, see Hansen et al. 2006: 4. Khramis Didi Gora remains unpublished with syntheses found in Kiguradze 1976, 1986, which, together with Chubinishvili 1971 and Chelidze and Gogelia 2004, contains summaries of the early investigations.

only 200 years (ca. 6700–6500 cal BC), suggesting an intense history of occupation.⁵⁰ Other sites had comparable cultural deposits – Shulaveri Gora had 8 m, of which 2 m were below the present level of the plain, Kültepe (Level I) measured 8.5–9.0 m of Neolithic, whereas Khramis Didi Gora was 7 m.⁵¹ This stable occupation is quite different to the landscape in the Mil Steppe, where a mobile Neolithic existence appears to have been the norm.⁵² Small mounds with shallow deposits that never developed into proper ‘tells’ point to seasonality, whereby communities might have followed a cyclic pattern of occupation–abandonment–reoccupation of a site. As a working model, it has been suggested that this lifestyle was one of choice and stemmed from socio-economic factors, rather than one imposed on the population by an unpredictable physical landscape.

The Shulaveri-Shomutepe Neolithic has been generally differentiated into an early and a late phase. At Shulaveri, nine main levels of occupation were recognised and divided largely according to pottery types, which are more decorated in the upper deposits (Levels III–I) than in the lower ones (Levels IX–IV). Recent investigations, however, show that variability through time is greater than once thought.

Large exposures in the upper levels at Göytepe (1,000 m²), Shomutepe (400 m²) and Shulaveri Gora (252 m²) clearly reveal a concept of planning.⁵³ These are well supplemented by other settlement plans, including Arukhlo, Gadachrili Gora, and Mentesh Tepe.⁵⁴ Villages consisted of cell-like compounds of round or oval houses, measuring between 2.5 and 5 m in diameter and linked by low walls (Figure 3.3). Complexes generally comprised one house and two to four smaller storage rooms less than 2 m in diameter. The average house provided floor space enough to accommodate one person.⁵⁵ Larger houses, such as those found in the upper levels at Shulaveri, may have accommodated more occupants. Most households would have had between 12.5 and 14.0 m² of roofed space plus the courtyard, where the scatter of kitchen utensils and the installation of ovens are indicative of food preparation. House 34 at Khramis Didi Gora (Figure 3.4 (1)), spanning Levels I–II, was exceptionally large, with an area of 15.9 m² and internal partition walls in the uppermost phases.

⁵⁰ Nishiaki et al. 2015.

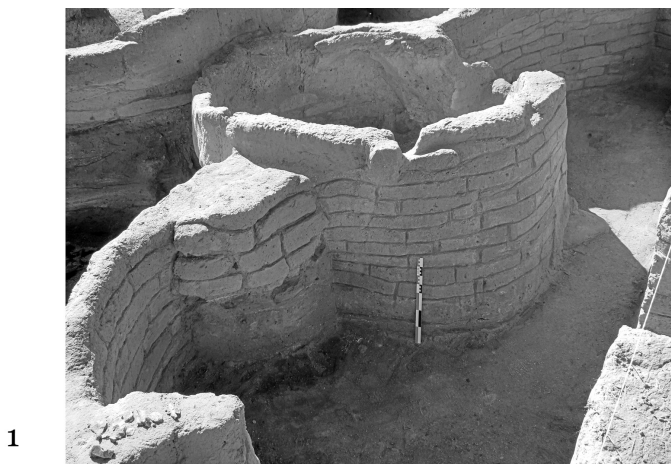
⁵¹ I would like to thank Veli Bakhshaliev for explaining to me the current excavations at Kültepe I, which are refining Abibullaev’s original sequence.

⁵² Ricci et al. 2012.

⁵³ When the Shulaveri Gora excavators reached virgin soil, only 32 m² were investigated: see Dzhaparidze and Dzhavakhishvili 1971, for summaries of the excavations; Dzhavakhishvili 1973: 13–37 and Kiguradze 1986: 12–30 for synthesised accounts. For Shomutepe, see Akhundov 2012.

⁵⁴ Hansen et al. 2006, 2007; Hansen and Mirtskhulava 2012; Hamon et al. 2016; Lyonnet et al. 2016.

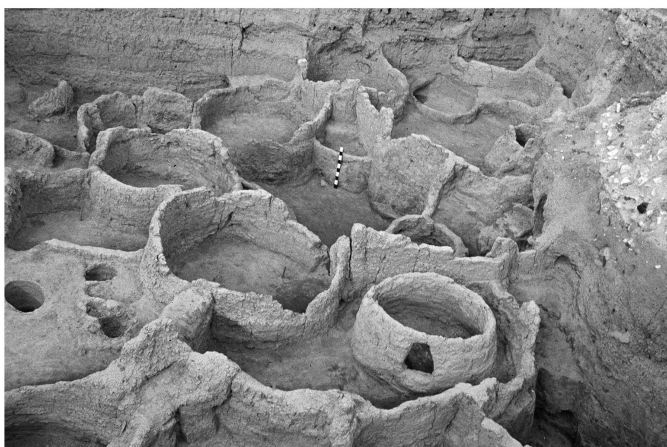
⁵⁵ Following Narroll’s (1962) estimates.



1



2



3

Figure 3.3. Comparative Neolithic architecture: **(1)** a circular house and adjoining wall at Göytepe Square 2A (courtesy Y. Nishiaki); **(2)** Aratashen Level Ic–IId (courtesy R. Badalyan); **(3)** Khramis Didi Gora (courtesy the late T. Kiguradze).

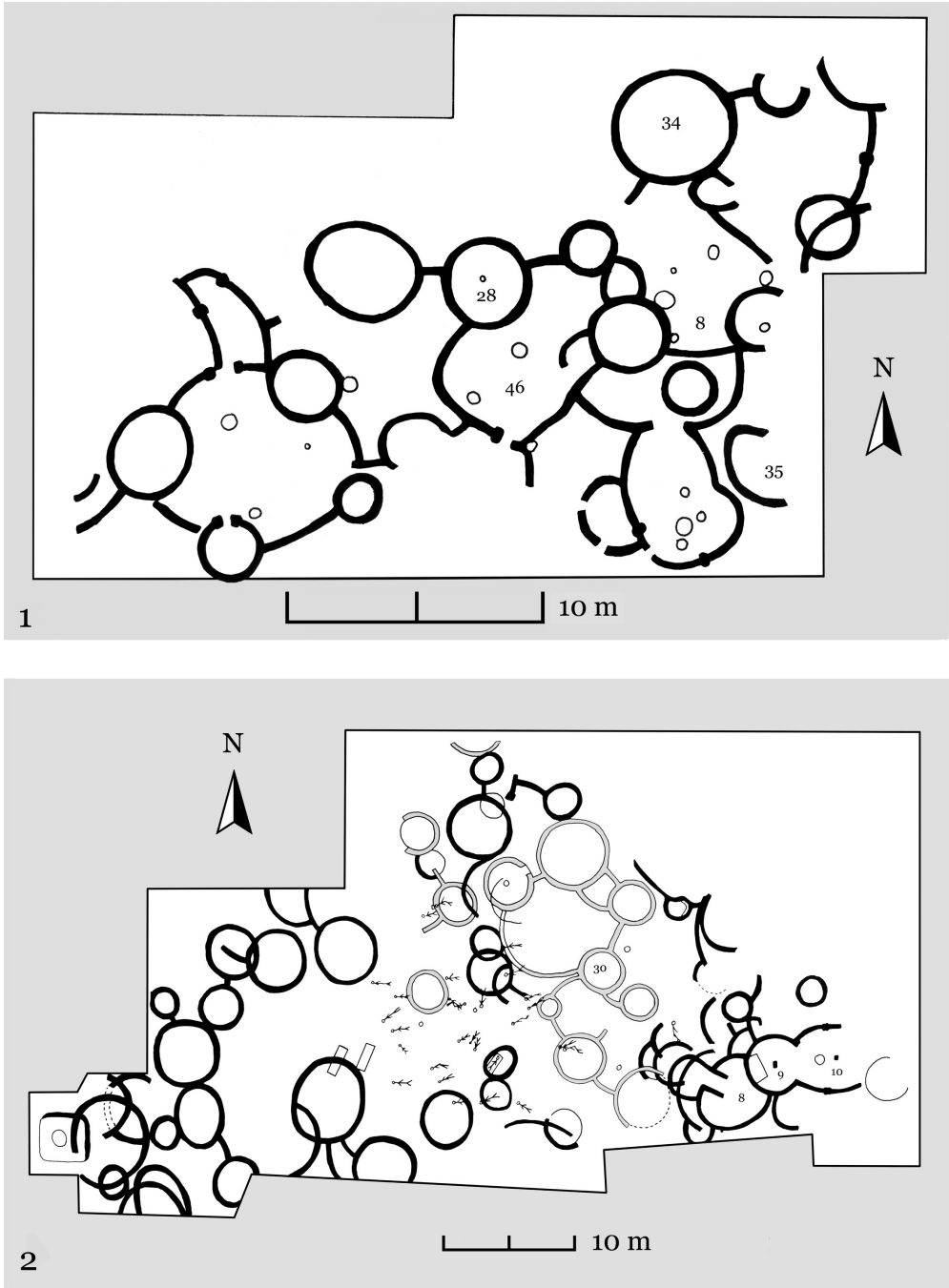


Figure 3.4. Neolithic architectural plans: (1) Khramis Didi Gora and (2) Imiris Gora (after Kiguradze 1986).

The circulation within a village of round dwellings can be confusing to interpret. Pathways at Shulaveri Gora, for instance, are not immediately evident. The layout certainly reveals high-density living within a small area, a situation also reflected at Göytepe (Figure 3.5). We find the same cell-like plan at Imiris, situated further up the Khrami River from Shulaveri, but without the overcrowding (Figure 3.4(2)). There is more open space and a greater sense of planning at Imiris. A wide exposure in the eastern half of the hill revealed seven building levels containing sixty round or oval structures, but the excavators could not attribute many of the buildings to any specific phase.⁵⁶ Even so, Imiris has a distinctive radial plan, comprising two neighbourhoods, each with a central courtyard with food processing facilities. Building 30 connects both precincts. The larger compound consists of four linked huts enclosing a work area some 16 m².

Evidence from more recent excavations indicates that these earliest farmers had a strong sense of place and planning that linked them to the space of their ancestors. Not only were structures built very close to one another, some of them – such as Ko1, 32, and 36 at Aratashen – were established directly on top of earlier ones.⁵⁷ This building practice is fascinating, for it represents a strict and conservative building code. This persistence of building in the same place as ancestors is redolent of the mentality we find at Çatalhöyük, which represents a quite different Neolithic situation.⁵⁸

At Khramis, the basic plan of circular compounds remained unchanged from Levels VII through I, when its inhabitants decided to change the village's orientation. This uppermost level consisted of two complexes of huts divided by what appears to be a communication route. Courtyard 11, a roughly oval enclosure in the eastern half, was now a community focal point. The upper levels revealed other variations. Courtyard 46 and House 35 of Levels III and II, for instance, tend towards the rectangular, foreshadowing later architectural developments. And later still, in Level I, there was a proliferation of hearths and storage bins, and a curious curved enclosure jutting out of a compound in the western sector.

Buildings of the Shulaveri-Shomutepe group were constructed mainly with plano-convex sundried mud bricks, measuring between 30 x 15 x 8 cm (Shulaveri) and 41 x 20 x 8 cm (Arukhlo) in size. Posts were occasionally used to build connecting fences between storage units. At Arukhlo, houses were built of bright yellow and dark brown mud bricks, in an effort to intentionally use colour for maximum visual effect. A dappled appearance was also created when dark brown bricks were bonded with yellow mortar. Occasionally, the

⁵⁶ Dzhaparidze and Dzhevakhishvili 1971; Dzhevakhishvili 1973: 37–70; Kiguradze 1986: 31–58.

⁵⁷ Badalyan et al. 2004a, 2005.

⁵⁸ Sagona and Zimansky 2009: 88.

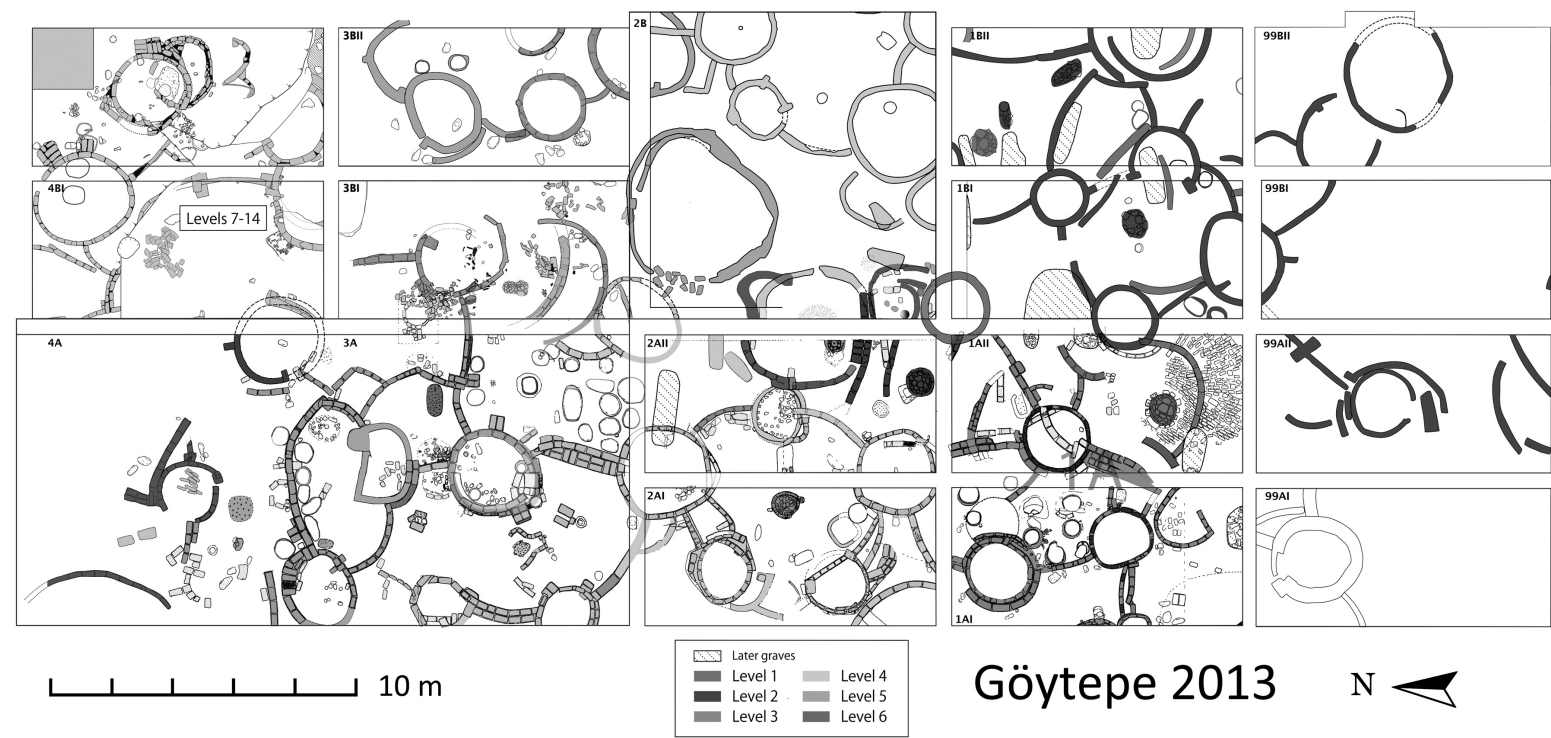


Figure 3.5. Göytepe, plan of the architectural remains (courtesy Y. Nishiaki).

walls were then plastered with yellow clay. The numerous repairs to walls indicate that the occupants at Arukhlo maintained their houses on a regular basis. At all sites, walls were uniformly erected without stone foundations. Judging by the number of rooms with overhanging brickwork and the rarity of any evidence for load-bearing supports, most dwellings were domed (or beehive-shaped) structures and at least 2.5 m high. Because many were also partly subterranean, the owners and visitors had to step down into the house. Entrances at Shulaveri and Shomutepe were by means of a narrow doorway 50–60 cm wide, which was not furnished with a step. Traces of red ochre on the clay floor in one of the oval rooms at Shulaveri suggest that some floors may have been painted, a custom also known in Anatolia.⁵⁹ Vertical slits (ca. 50 cm wide and 70 cm in length) set low in the walls and presumably a flue in the middle of the dome admitted daylight and provided ventilation.

Houses at Shulaveri contained only one internal feature – an oval hearth sunk into the floor at the base of the wall near the doorway, probably placed there to take advantage of ventilation. Hearths generally measured about 70 cm along their length, stood 30 cm high, and had a round opening at the top. Similar circular features (30–90 cm in diameter) built of clay and well preserved to a height of a metre were recovered at Khramis Didi Gora. While some were clearly used as hearths, others showed no signs of burning. The presence of grain, bone, and stone objects in certain bins suggests storage; however, according to Kiguradze, they may also have had ritual purposes.

Remnants of chaff point to grain storage at Göytepe, where micromorphology and detailed scientific analyses suggest that dehusking was probably carried out in one of the clay bins shortly after it was constructed.⁶⁰ Interesting is the prevalent behaviour of caching usable tools (grindstones, sling stones, and bone tools) around or in the bins. The authors of one study suggest that this caching suggests the inhabitants ‘left the settlement seasonally’.⁶¹ Following another line of thought, based on prehistoric pits in south-eastern Europe, it is also possible that while these bins may have had a functional purpose, the caching behaviour and structured deposition might equally reflect ritual activities.⁶² It is difficult to discern whether the functionality of the bins preceded the ritual, or whether both activities were performed simultaneously. Or perhaps the caching of tools symbolically represented the ‘closure’ of a feature or house.⁶³

⁵⁹ Sagona and Zimansky 2009.

⁶⁰ Kadowaki et al. 2015.

⁶¹ Kadowaki et al. 2015: 423.

⁶² Chapman 2000b.

⁶³ Another social act symbolic of closure, well attested in Europe and Anatolia, is the ritual destruction of a house at the end of its lifespan. See Stevanović 1997; Chapman 2000a; Sagona and Zimansky 2009: 88.

Not all structures were circular. At Imiris, an oval room (4.25 x 3.6 m) in Building 8, Level VII, was connected to a smaller apsidal chamber. The doorway linking the two was flanked by a pair of buttresses on the inside of the oval room. In other respects it was a typical Neolithic house: it had a deep central hearth, clay containers, and pits. Another variant of the standard form is Building 9–10, a pair of conjoint rooms with a floor space of ca. 18 m². The main oval room had two opposing buttresses that protruded about 10 cm on both the inside and outside of the wall (Figure 3.4(2)). Between the buttresses, a circular hearth was set into the floor, and next to it a stone-based posthole indicates that this building had a flat roof rather than a dome. A flat stone, probably the base of another post, was found in the centre of the adjoining room, which had a built-up floor and a rectangular platform positioned at the rear wall. The different plan and features of this house have led its excavators to designate it a ‘shrine’.⁶⁴ But its function need not necessarily be religious. It did not contain an unusually high concentration of objects that may have suggested cultic activity, or some other kind of special purpose. Its size and shape may simply reflect the status of its owner, or occupancy by more than one person.

Conjoined structures of a small (ca. 2–3 m) and large (ca. 5–6 m) circular cell occur at Hacı Elamxanlı and Arukhlo, where they are viewed as domestic dwellings.⁶⁵ With radiocarbon dates extending to the 6000 cal BC boundary, these conjoined structures represent the earliest form of architecture along the Kura Valley. Conceptually, they are redolent of structures at Halaf hamlets such as Khirbet esh-Shenef, where circular houses had an antechamber, usually rectangular or apsidal in plan.⁶⁶

Courtyards were important communal areas, enclosed by small storage cells and houses. The smaller units lacked fixtures and traces of doorways, indicating they were probably covered with a flat lid. Large numbers of rubbers, grinding stones and storage jars found in courtyards, as well as the occasional cone-shaped pits, support the idea that food procurement, preparation and storage were collective activities.⁶⁷ A large amount of occupational debris also covered the floors of many buildings, demonstrating that they too were work places and not just living quarters. But activities in the two types of space appear to have been different. Modified obsidian cores, knapped flakes, and wasters, which constitute over 90 per cent of all stone objects in the upper levels at Shulaveri, suggest that house and courtyard activities were kept separate. Bone tools were also crafted in houses. Deer, goat, and wild pig bones were shaped

⁶⁴ Dzhavakhishvili 1973: 63–6.

⁶⁵ Nishiaki et al. 2015: 283, fig. 4.

⁶⁶ Akkermans and Schwartz 2003: fig. 4.11.

⁶⁷ Hamon 2008.

into a variety of points and spatulae, most likely used for leather-working and basket-making.

THE ARARAT PLAIN

Although the early investigations at Tekhut provided a glimpse of the Neolithic settlement of Armenia, the subject has been elucidated only in recent decades, through renewed investigations at Aratashen and its neighbour Aknashen-Khatunarkh, both located in the Ararat Plain.⁶⁸ Detailed contextual data presented by Armenian-French teams show that while the Ararat Plain shares many cultural traits with both the Kvemo Kartli and Mil-Mugan regions, it developed its own distinctive character. Aratashen is now quite a small mound (ca. 60 m in diameter), once situated within the bend of the Kasakh River, which eroded its northern edge. The earliest settlers at the site (Level II) built a village densely packed with circular houses, comparable to those we have discussed in Kvemo Kartli (Figure 3.3(2)). Although chaff-tempered *pisé* was the basic medium of construction, recalling structures at Kültepe (Nakhichevan) and in northern Iran (Haji Firuz and Dalma Tepe), mud bricks were used in certain buildings. The dampness of the walls, however, did not allow excavators to determine the exact size of the dark bricks, whose edges melded with the lighter coloured mortar, prompting the idea that bricks and mortar might have been used for aesthetic reasons in the construction of houses, much as builders used them at Arukhlo.

Analyses of floor deposits enable some functions to be discerned. Several structures in Level IIb had beaten clay floors with notable amounts of manure and plant particles, suggesting that they may have housed animals. Despite the constricted size of the trenches, especially in Levels IIc and IId, the general impression is that the space between buildings was open. By Level IIa the settlement appears to have opened further, with more space between the structures. But whether this is a deliberate attempt to change the settlement plan or the result of erosion is difficult to determine. Round structures continued into Level I. Built from mud bricks, of a size that can now be determined (ca. 45 x 25 x 8 cm), these round houses were 5 m in diameter and linked together by walls.

Round structures made from *pisé* were also recorded at Aknashen-Khatunarkh from the lowest level (sub-Horizon V-5) onwards, and in some cases they had a rectangular extension.⁶⁹ The round building in sub-Horizon V-4 was furnished with standard installations – oval *pisé* structures, a clay platform covered with a layer of pebbles and a hearth. Outside, a series of small oval

⁶⁸ Martirosian and Torosian 1967: 52–62; Torosian 1976 (Tekhut); Badalyan et al. 2004a, 2005, 2007, 2010 (Aratashen and Aknashen-Khatunarkh).

⁶⁹ Badalyan et al. 2010. R. M. Torosian excavated Aknashen-Khatunarkh in a series of intermittent campaigns between 1969 and 1982, but results have not been published.

storage units once held cereals. Several saddle querns, rich botanical and animal remains, and pebble-built furnishings continue throughout the sequence, but the clearest architecture, in the form of two round *pisé* houses, was exposed in Horizon IV. A pair of buttresses that flanked the entrance to the larger house recall a similar reinforcement used in Building 8 in Imiris Gora. The house had several floor surfaces of beaten earth strewn with many artefacts and furnished with several typical installations. Much the same pattern was found in Horizons II and III.

THE NAKHICHEVAN REGION, MIL PLAIN, AND THE MUGAN STEPPES

Kültepe, located 8 km north of Nakhichevan, belongs to the Mil-Mugan group and it was the first site to reveal Neolithic settlement in the southern Caucasus.⁷⁰ Regrettably we do not have a coherent plan, though we are told the settlement comprised both round and rectangular structures built of stone, usually with an earthen floor. Some of the round structures are quite substantial, with diameters greater than 7.5 m and walls to match, about 35–55 cm thick. Rectangular buildings measured 4 x 3 m.⁷¹ Precise information on the Neolithic of Nakhichevan is now emerging from Shorsu, where rectangular rooms and ceramics can be dated to the second half of the sixth millennium BC.⁷²

More informative is Alikemek Tepesi in the Mugan steppes. Its 4 m sequence, numbered from 1 to 5 (top to bottom), revealed an important change in architecture apparent elsewhere in the Near East, namely a shift in plan from round structures to fully rectangular buildings.⁷³ This transformation most likely represents a change in social organisation from a more communal-based village to one that is oriented towards the nuclear family.⁷⁴ Throughout the entire occupation of the site, the inhabitants of Alikemek always built their homes from mud bricks, ranging in size from 50 x 20 x 12 cm to 35 x 18 x 9 cm. In the earliest levels, Horizons 5 and 4, houses were a variation on the Shulaveri-Shomutepe type. Here in the Mugan steppes, circular houses 3.5 m in diameter had small rectilinear annexes. This is similar to the situation in the Karabakh steppe, where Building 8 in Level 2 at Ilanlı Tepe comprised a large circular house

⁷⁰ Abibullaev 1959a: 11–13, 1959b, 1963, 1965a, 1965b.

⁷¹ Abibullaev 1965a: 157. Current collaborative Azerbaijani-French excavations at Kültepe will no doubt add much to our understanding of this site's development.

⁷² Bakhshaliyev 2015. To this can be added the chance Neolithic finds from Sadarak (Bakhshaliyev and Seyidov 2013: 1).

⁷³ The topmost level is designated 'o' and comprises mixed material from the Middle Bronze Age, disturbed by a Muslim cemetery. Reports on Alikemek Tepesi are mostly short notices; see, for example, Makhmudov and Narimanov 1972, 1974; Munchaev 1982: 118.

⁷⁴ Schachner 1999; Goring-Morris and Belfer-Cohen 2008.

with a rectilinear extension. This house was furnished with a hearth and ten ceramic containers, whereas the rectilinear storeroom contained a number of tools – edge-ground axes, stone querns and rubbers, a bone hoe, and a range of obsidian chipped tools. As at Kültepe, this and other houses revealed traces of red painted floors.⁷⁵

By Alikemek Horizon 3, we find a freestanding rectilinear building associated with a number of circular structures, some semi-subterranean, the next step in the transition from round to rectangular. Particularly noteworthy is Structure 22, measuring 3 m in diameter. Its lime-plastered interior walls had traces of a painted geometric design – circles, lines, dots, and U-shaped motifs – executed in fugitive red ochre.⁷⁶ A large curved wall encircled some of the buildings. Fully rectangular structures were found in the youngest village at Ilanlı Tepe, where they were associated with three oval-shaped hearths. A roughly similar plan to Alikemek has been found at Göytepe, where recent excavations down to virgin soil revealed a small rectangular building within a complex of connected round houses built with yellow or grey-brown mud bricks.⁷⁷

Our understanding of the Mil Plain has been expanded markedly in recent years through exploratory investigations at several sites, including Kamiltepe (MPS 1) and its environs.⁷⁸ Kamiltepe is situated on a high point overlooking the Kara Çay Valley. This vantage point would not only have provided visibility across the horizon, but it might also have had the practical purpose of protection against floods and the vagaries of a river that shifted its course during the sixth millennium BC. Although known for some decades from the surface material of painted pottery, Kamiltepe was excavated for the first time in 2009, as part of an Azerbaijani–German project. Excavations have revealed that a fully fledged Neolithic farming community (ca. 5600–5400 BC) occupied the site across two building phases, with strong ties to northern Iran and the south Caspian region. Yet, interaction with Shulaveri-Shomutepe group of sites appears to have been minimal. Communal co-operation is evident in a massive mud-brick platform, sub-circular in plan, attributed to the older phase (Figure 3.6). Evidence of a lightweight post construction was found on top of the wall, but the purpose of this structure remains unclear. Construction debris and a large quantity of bones of domesticated and wild animals were dumped around the structure, leading the excavators to suggest a social function for the platform, possibly involving the preparation of food and communal feasting.⁷⁹

⁷⁵ Narimanov 1969: 396.

⁷⁶ Narimanov 1992: 52.

⁷⁷ Lyonnet and Guliyev 2010; Guliyev and Nishiaki 2012a, 2012b.

⁷⁸ Aliyev and Helwing 2009; Helwing and Aliyev 2012.

⁷⁹ Aliyev and Helwing 2009: 32–3; Ricci et al. 2012: 371; Helwing and Aliyev 2012: 8.



Figure 3.6. Kamiltepe, the mudbrick platform (courtesy Deutsches Archäologisches Institut).

DITCHES

Another interesting, albeit enigmatic, feature at Kamiltepe is a system of four concentric ditches, with the outer ditch measuring about 50 m in diameter (Figure 3.7(1)).⁸⁰ Although such a nested ditch system is so far unique in the southern Caucasus, individual ditches have been reported at Arukhlo (Figure 3.7(2)), Imiris Gora, Damtsvari Gora, and Kviriatskhali.⁸¹ These cuttings are either V-shaped or U-shaped in cross-section, and are assumed to be defensive structures, remnants of earth quarries or irrigation canals. The lack of a soil embankment or any evidence of a palisade rather undermines the notion of defence, and it is difficult to see how the ditches could be irrigation canals.

Drawing on the evidence from Neolithic Europe, where ditched enclosures (or roundels) and related features have been well studied as part of the prehistoric landscape, no single interpretative model can account for the diversity of plans and variations in chronology. In addition to fortification, the European ditched enclosures have been understood as cattle corrals and enclosed marketplaces.⁸² Other studies assume a more social model, arguing that they were

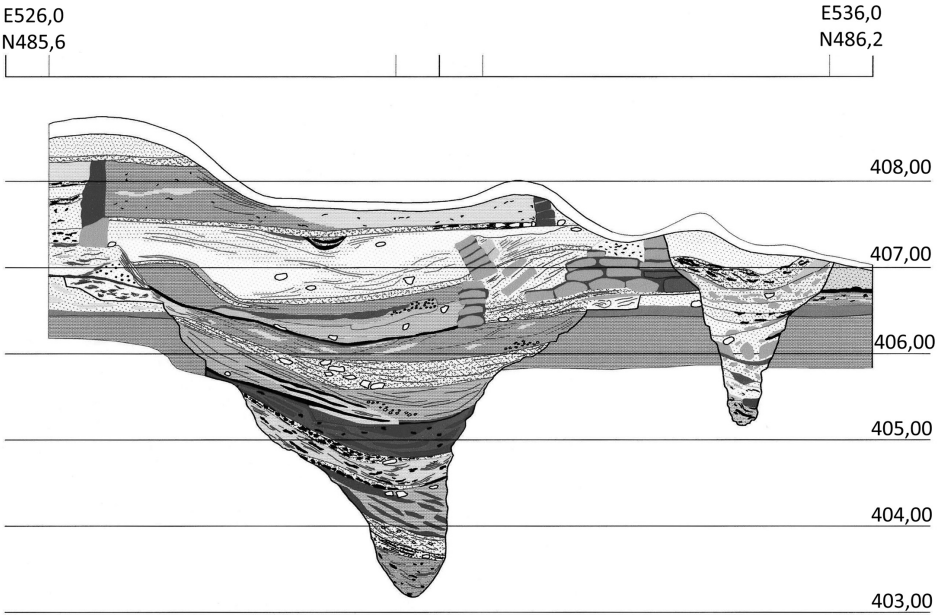
⁸⁰ Helwing and Aliyev 2012: 10–13.

⁸¹ Helwing and Aliyev 2012: 13, and Chataigner 1995: 67, 69, for further references; see also Hansen and Mirtskhulava 2012: 67–9 for a clear cross-section and discussion.

⁸² Petrasch 2015: 775–6.



1



2

Figure 3.7. Neolithic ditches from the southern Caucasus: (1) Kamiltepe; (2) Arukhlo (courtesy Deutsches Archäologisches Institut).

communal meeting places, or even exclusive areas for the rich. Some researchers have suggested astronomical observatories (*Kreisgrabenanlagen*), which assisted farmers in working out their agrarian cycle of sowing and harvesting. Then we have a ritual interpretation, one of the more compelling arguments, whereby ditches would have been dug and, in some cases, backfilled as part of ritual activities.⁸³ Whatever the model that is adopted, it must be founded on contextual evidence, especially on finds located within the ditch. Our information for the Caucasus is still too little to posit a plausible interpretation; suffice to say that evidence is growing. In Chapter 9, we shall see that ditches have now been discovered through remote sensing in later contexts in the northern Caucasus.⁸⁴

Burial and Human Body Representations

Known Neolithic burials are scarce.⁸⁵ Arukhlo has mostly inhumations, with the deceased laid to rest in a flexed position. One burial stands apart. It is a cremation grave of a 30- to 40-year-old adult, too burnt to determine gender, discovered in Building Complex III. A ring-shaped mace-head, mentioned earlier, was also placed in the grave. Although cremation graves are known from the Near Eastern and European Neolithic, the Arukhlo example is unique in the southern Caucasus. The largest number of burials belongs to the Mil-Mugan group. At Kültepe, the inhabitants buried their dead beneath some of the houses and below the courtyard floors. Seventy-three burials were discovered flexed in a crouched position, or on their backs. Only twenty-five burials had grave goods – pottery containers, beads and obsidian artefacts. Another nine burials belong to Horizons 1–3 at Ilanly Tepe. They too were found both under the floors of buildings and between buildings. The deceased were placed on either their right or left sides (no differentiations with regard to sex were discerned) in a tightly flexed position, sprinkled with red ochre, and accompanied by a ceramic bowl. A child burial at Aknashen-Khatunarkh was that of a 5- to 7-year-old, whose hair was probably held in place with the copper or bronze ring found under the skull.

Concerning depictions of people, the most complete collection of human figurines comes from Khramis Didi Gora where more than sixty were found. Seventeen of the figurines were grouped around the hearth of one room. That the figurines are of unbaked clay and were found near lumps of raw clay suggests that they were being manufactured when the room was abandoned. Some of the statuettes are represented seated (Figure 3.8(7, 9)). Their sex is emphasised through prominent breasts; arms are poorly sculpted, if shown at

⁸³ Jeunesse 2011.

⁸⁴ Fassbinder et al. 2013.

⁸⁵ For a detail study, see Poulmarc'h 2014a.

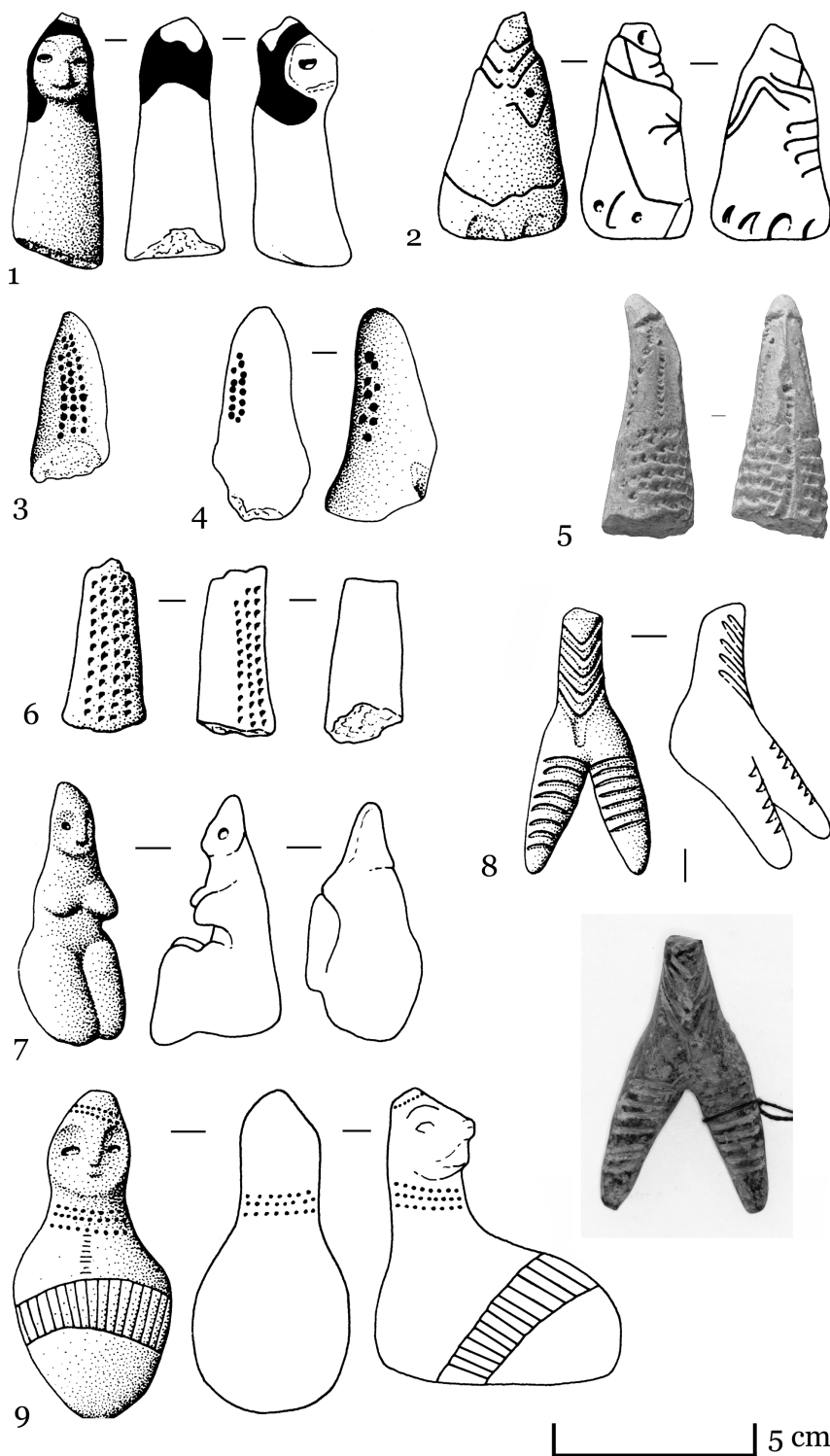


Figure 3.8. Neolithic figurines from the southern Caucasus: (1-4, 6-7, 9) Khramis Didi Gora (after Kiguradze 1986); (5) Göytepe (courtesy Y. Nishiaki); (8) Shulaveri Gora (after Kiguradze 1986).

all, and heads are stalk-like. Another statuette has three strips of clay laid across the front of the torso. A head is particularly well crafted with deep-set eyes and a white painted face. The legs of a stick figure, decorated with incisions, come from Shulaveri, whereas Gargartepe has a female stalk figurine covered all over with small incisions possibly showing clothing or even body decoration. These are comparable to markings on the lower half of a similarly decorated seated figurine from Aruklo.⁸⁶ Another incised cone-shaped figurine was found at Göytepe. Schematic human figurines are present in the upper levels at Imiris Gora and Shomutepe, though not plentiful.

Materiality and Social Relations

CERAMIC VESSELS

Pottery fragments are found at all south Caucasian sites, but at some sites their numbers are relatively small, suggesting that not all communities were readily convinced that baked clay containers had advantages, even though their neighbours in Mesopotamia and Anatolia had perfected the craft of making them.⁸⁷ Only twenty-four sherds were found in the four occupation levels at Hacı Elamxamlı, and about three times that number (seventy-five pieces) in the nine building levels at Shulaveri Gora. Further south at Aratashen, the founding villagers were also ambivalent about ceramics, but by Level I the quantity of sherds indicates the community came around to the new technology.⁸⁸ At Arukhlo, on the other hand, the team quantified 16,702 pottery sherds in three seasons alone, even though the majority were smaller than 10 cm.⁸⁹ As mentioned earlier, the unwillingness to manufacture pottery containers might point to an interaction with late Mesolithic populations, for whom baked clay storage utensils might not have been a priority. Or vessels were simply manufactured from perishable materials such as leather, basketry, or wood – materials that were abundant and lightweight.

Two broad ceramic groups distinguish the Neolithic of the southern Caucasus: a coarse plain ware, which is the most common and found across all regions, and painted wares that are fewer in number, clustering in Nakhichevan and the Mil-Mugan areas. Both were handmade.

Plain ware vessels are simple in form and rough in manufacture (Figure 3.9).⁹⁰ The Shulaveri-Shomutepe containers were constructed with coils, as were those from Aknashen-Khatunarkh, but at Aratashen slabs of clay were used;

⁸⁶ Neumann 2012, fig. 124.

⁸⁷ Nishiaki et al. 2015.

⁸⁸ Palumbi 2007a.

⁸⁹ Bastert-Lamprichs 2012.

⁹⁰ The Arukhlo preliminary reports provide a detailed analysis of ceramics; see, for example, Hansen et al. 2006: 14–22; Bastert-Lamprichs 2012.

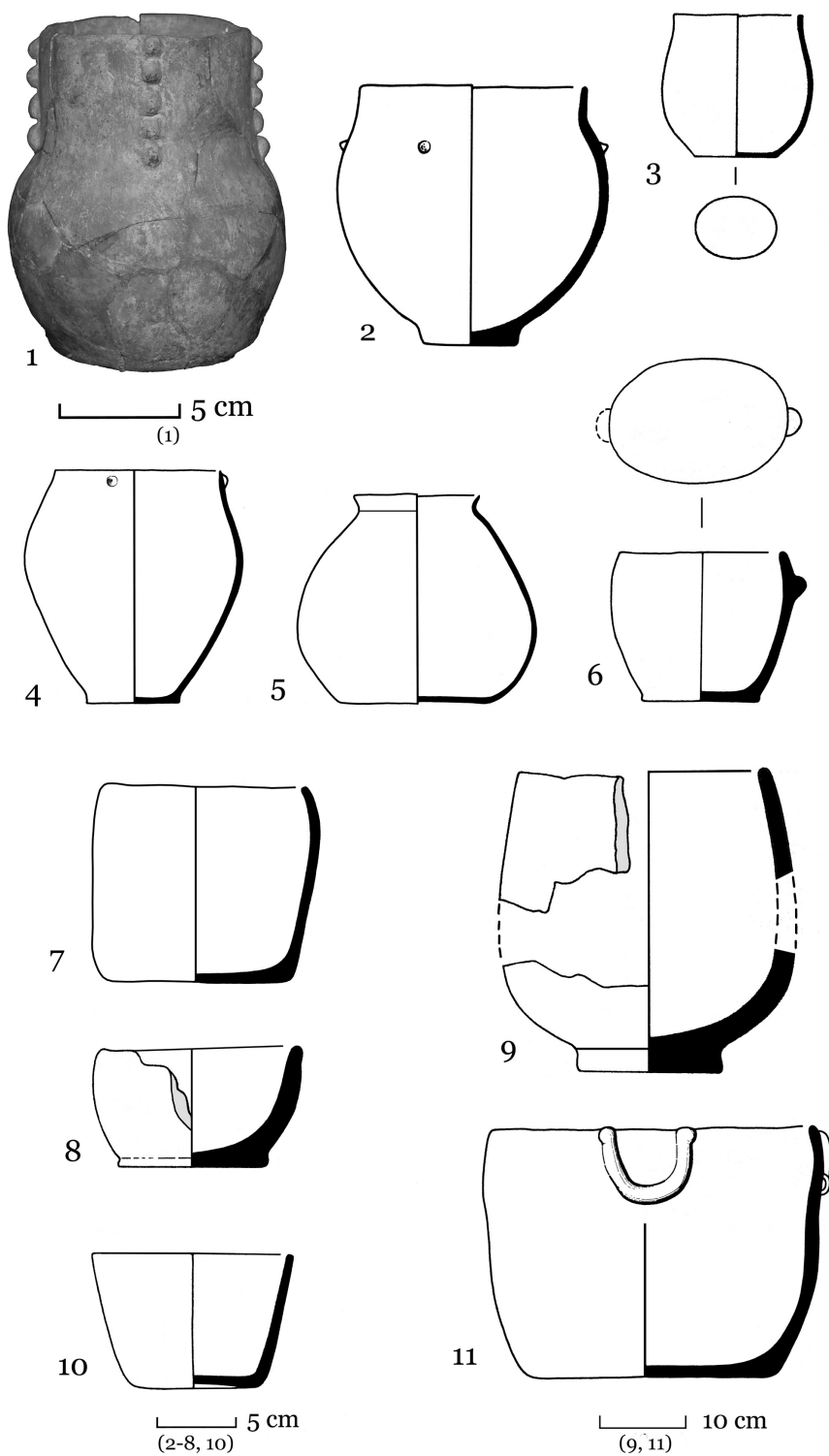


Figure 3.9. Neolithic pottery from the southern Caucasus: **(1, 9)** Arukhlo; **(2-5)** Imiris Gora; **(6, 7, 8, 11)** Khramis Didi Gora, **(10)** Shulaveris Gora (after Kiguradze 1986, photograph A. Sagona).

finger impressions on both surfaces reveal how the slabs were melded together. Holemouth jars and wide-mouthed cooking vessels with an outward-turning rim are fairly common, with bowls and plates practically unknown; in later centuries some jars at Imiris Gora have a squat appearance. Lids are rare, as is the tall-necked, round-bodied jar from Kamiltepe. Containers are invariably flat-bottomed and devoid of handles, apart from the occasional horizontal ridges, or solid lug handles set on the girth or at the rim for a better grip. Paste of these earliest containers is coarse and tempered with grit inclusions that occasionally break through the surface. Grog and obsidian were also used and added in liberal quantities by Armenian potters. At the end of the Neolithic, grit gave way to chaff, a shift demonstrated over most of the southern Caucasus. The exception to this is the steppe sites, including Kamiltepe, where chaff, chopped quite finely, was only rarely mixed with a scatter of grit inclusions.

The great variations in colour from black through red and browns to buff, as well as the mottled effect individual vessels bear, indicate little control in firing. Most likely, vessels were grouped together, covered with wood, chaff, or dung, and then set alight. Fire spots confirm the lack of control and low firing temperature, generally between 400° and 600° C. Cooking vessels are characteristically stained with soot and often irregular in form, but otherwise no different to other containers. Occasionally these wares are given a perfunctory smoothing and slipped on the exterior surface in grey-olive, or in the case of Kamiltepe, with a whitish wash. Shulaveri-Shomutepe potters constructed their vessels on a mat, which left its spiral or rectilinear impression on the base; this feature is absent at Aratashen, where vessels were constructed on a wooden or stone slab.

Ornamentation is regional. One-third of the diagnostic sherds at Arukhlo are ornamented, but most other sites recorded only a small quantity of decorated pottery (Figure 3.10(1–6)); at Aratashen, pottery is always plain. Plastic ornaments were the most common and begin early in the sequence: pellets of clay, circles, or ovoids, placed along the rim, or in short vertical rows down the body. Occasionally potters also applied other relief ornaments: U-shapes, isolated rings, short wavy lines, and a human stick figure. The latter are especially notable at Arukhlo, where a potter has finely articulated the hands (Figure 3.10(1, 6)). A few late vessels were incised: a large zigzag design along the shoulder comes from Gadachrili Gora, and vertical rows of fir-tree motifs were found on sherds from Shulaveri Gora.⁹¹ The fir tree is

⁹¹ Fir-tree ornaments are also attested at Odishi and Anaseuli II in western Georgia (Kiguradze 1976: 157), and at Ginchi, although these alone should not be taken as indicators of contemporaneity, especially in light of the re-thinking of the western Georgian Neolithic.

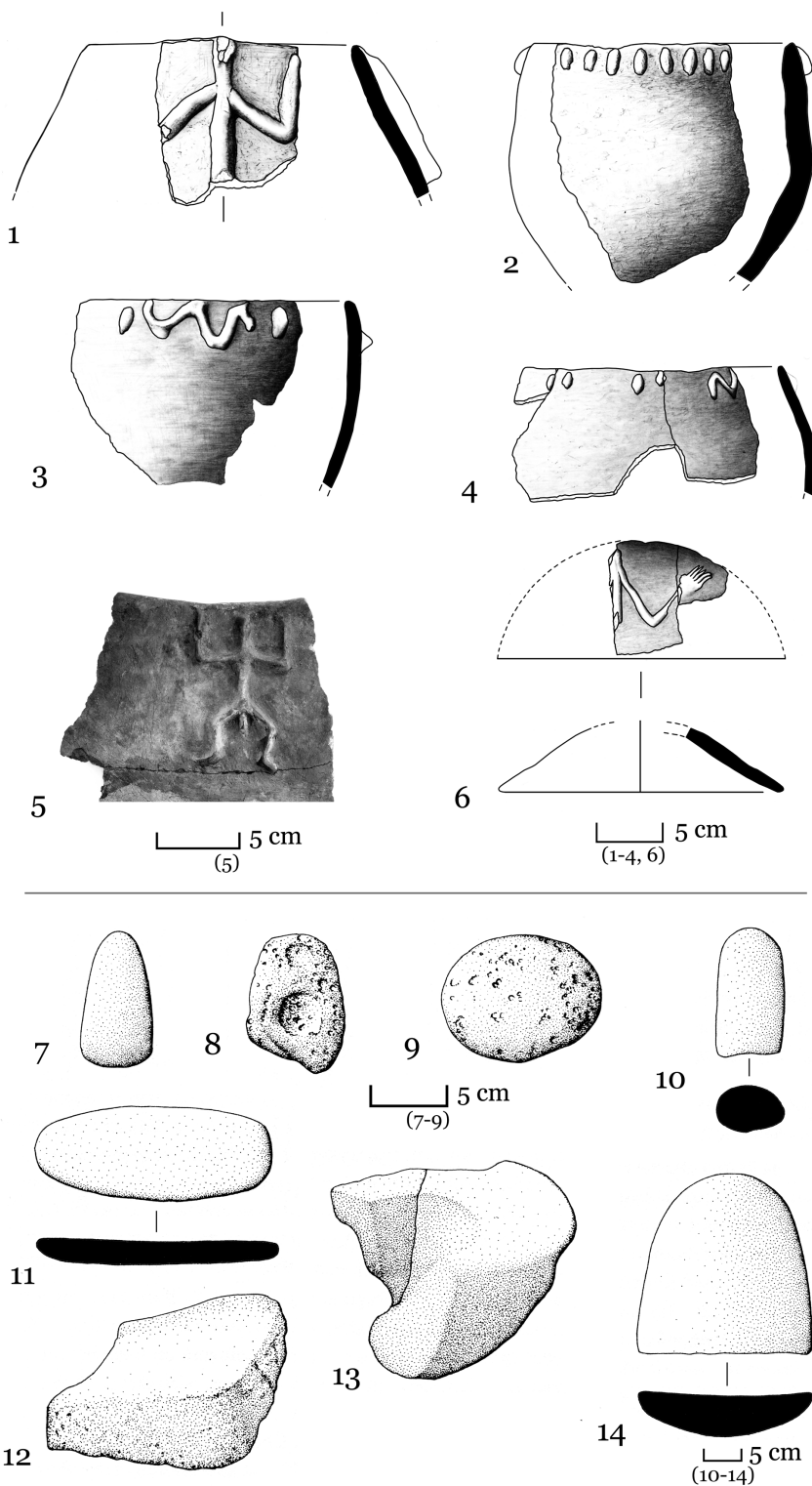


Figure 3.10. Neolithic pottery and ground stone tools from the southern Caucasus: (1–6) Arukhlo (1–4, 6, after Bastert-Lamprichs 2012 and courtesy Deutsches Archäologisches Institut, 5 photograph A. Sagona); (7–14) Imiris Gora (after Kiguradze 1986).

also a relatively common motif amongst Hassuna wares. Some of the rims are notched, foreshadowing the Chalcolithic Sioni wares.

Despite the relatively small amount of painted pottery, it has received the greatest attention, because of its Near Eastern affinities (Figure 3.11). We have twenty painted sherds and a complete vessel with painted decoration from Kültepe I (Figure 3.11(6)), and a handful of painted sherds from Tekhut. At Alikemek Tepesi, painted pottery was found throughout the sequence (some 200 sherds), and in the uppermost levels (Horizons 0–1) it was found in association with Chalcolithic Sioni pottery distinguished by a comb- (or flint-) scraped exterior surface, which we shall discuss later.⁹² The central south Caucasian potters preferred not to decorate their wares with painted designs. Amongst the few painted examples we have are two finely painted sherds from Hacı Elamxamlı comparable to the Samarra and Early Halaf horizons. These two Mesopotamian imports, and two unstratified ones from Imiris Gora, are the northernmost outliers of traditions that are better represented in the Araxes Valley.

One group from Kültepe is chaff-tempered, but better in quality than the plain wares. They are slipped in cream and ornamented with simple geometric designs painted in brown, black, and, rarely, red, including nested triangles pendant from the rim and bands of diagonal or parallel lines. The other group, however, is well levigated with few impurities and is carefully fired, with a smoothed surface on which geometric designs were executed in black, brown, and red paint.⁹³ A small jar with an everted rim from Kültepe I recalls Halaf ceramics.⁹⁴ On the basis of quality and finish, Abibullaev correctly suggested that the first chaff-tempered group were most likely local imitations of imports, represented by the second, refined group.

Bowls, totally absent from the plain wares, are a popular form amongst the painted wares. Those from Alikemek Tepesi are quite large, with a diameter reaching 50 cm. Their designs are bold and geometric – nested zigzags, lozenges, net, and chequerboard – executed in black and red. Each of the patterns has a parallel amongst the Halaf ceramics of Mesopotamia, but especially amongst Dalma ware.⁹⁵ The distinguishing trait of the Kamiltepe painted ceramics is the geometric designs executed in red or brown, occasionally in a fugitive manner, similar to repertoires in west central Iran.⁹⁶ Although Kamiltepe is surrounded by painted pottery repertoires, its closest affinities are with sites in the Mugan steppes, and north Iran and the north-western Iranian Plateau. A haphazard execution defines Tekhut painted patterns, seen especially in the vertical-line

⁹² Makhmudov and Narimanov 1972: 481; 1974b: 14.

⁹³ Abibullaev 1963: 163.

⁹⁴ Akkermans and Schwartz 2003: 133–9.

⁹⁵ Hamlin 1975: figs 4–7; Khosravi et al. 2013.

⁹⁶ D’Anna 2012: figs 48, 49, 53, 54, 55.

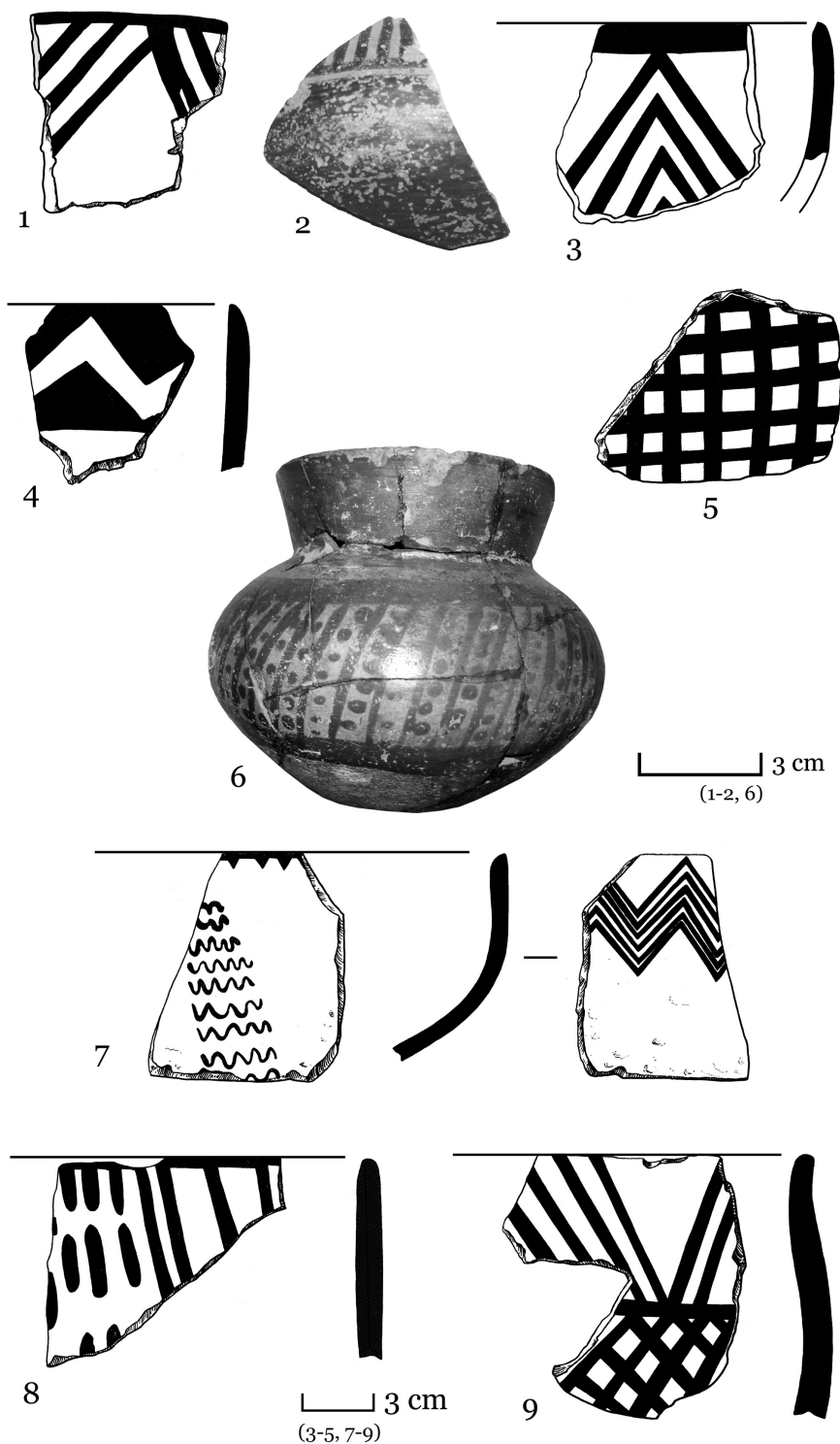


Figure 3.II. Neolithic painted wares from the southern Caucasus: (1) Mil steppes; (2, 6) Kültepe; (3-5, 7-9) Alikemek Tepe (after Munchaev 1994a, photographs courtesy V. Bakhshaliyev).

pendant from the neck and loose festoons. In this regard, they have closer affinities with the northern Ubaid than the Halaf. Similar wares have also been found at Tilktepe and Yılantaş, near Van.⁹⁷

The plain Neolithic ceramic wares from the south Caucasus, then, represent a local production that displays few affinities with Anatolia or Iran. Certain similarities could possibly be drawn with Umm Dabagiyah and other Hassuna assemblages in Mesopotamia, but these remain loose. A few of the painted items display the craftsmanship of Halaf wares, but on the whole they are local imitations of Halaf, or contemporary traditions of the northern Iranian Plateau.

CHIPPED AND GROUND STONE

Flaked stone tools display sameness in the overall assemblage, but site-specificity in terms of the proportion of types and raw material used.

As in Armenia, the Shulaveri-Shomutepe lithic assemblage is overwhelmingly obsidian. At Shulaveri, obsidian represents 82 per cent of the chipped stone industry in Level IX, increasing to 98 per cent in the latest deposit; the rest was chert. A variety of obsidian sources were exploited, but knappers in the Kvemo Kartli region procured their obsidian from the Paravani outcrop.⁹⁸ Shomutepe, Toyre Tepe, Gargalar Tepe, and Baba Dervish, the Azerbaijani half of this group, also have a chipped stone industry worked from Paravani obsidian, though the inhabitants of the Kazakh district also exploited the Atis source in Armenia.⁹⁹ Stone knappers from Ararat sites procured their nodules from many deposits, but mostly from the Arteni source in the western half of the Ararat Plain.¹⁰⁰ The next most exploited source was the Gutansar deposit, which was either less desirable or perhaps less accessible in terms of social boundaries. Obsidian was procured from other deposits, each a considerable distance from both Aratashen and Aknashen-Khatunarkh, including Geghasar (in the south Gegham Mountains), Hatis, Kars, Van, and another unknown source. Chipped stone tools of the Mil-Mugan group, however, have a large component of flint, as does the repertoire from Alikemek Tepesi (78.3 per cent flint).¹⁰¹

Shulaveri-Shomutepe sites are characterised by abundance and diversity of flake tools, a large quantity of scrapers, the adoption of advanced blade techniques, and ground stone artefacts. At Shulaveri, there is a shift from a largely flake assemblage in Layer V to a predominately blade industry in the upper levels (Layers I–III). Blades are generally standardised – wide and long,

⁹⁷ Korfmann 1982; Marro 2007.

⁹⁸ Badalyan et al. 2004b.

⁹⁹ Arazova 1974: 8. Badalyan et al. 2004a, 2010.

¹⁰⁰ Badalyan et al. 2007: 43–8; Badalyan et al. 2010: 194–6.

¹⁰¹ Arazova 1974: 21.

measuring up to 15 cm – and reduced from conical cores. Even so, the tool kit is fairly limited overall – chisels, scrapers, splintered pieces, drills, and denticulated blades (Figure 3.12). Conspicuously absent from the lithic assemblages are projectile points.

By contrast, the Aratashen and Aknashen-Khatunarkh industries, as well as those of the Shomutepe sites, are primarily blades (Figure 3.13). In addition to tools and debitage, many nuclei were found, including some elegant and unexpended pyramidal cores. Blades were often snapped into segments and inserted into sickle handles or into a threshing sledge (a tribulum), the different functionality apparent from the glossier use-wear sheen on sickle blades. Technologically, the tools were knapped, using pressure applied with a crutch or a lever and indirect percussion. Of these techniques, lever pressure, whereby a long lever, usually equipped with a point, produces lengthy blades, is noteworthy for its antiquity.¹⁰² Only stone tools from Franchthi Cave (Greek Early Neolithic) and Varna (Bulgarian Chalcolithic) are dated earlier, and there, lever pressure was used on flint, not obsidian. While contemporary lithic industries from sites of the Shulaveri-Shomutepe culture share morphological elements with the Aratashen assemblage, they do not appear to have used lever pressure.

Chipped stone tools of the Mil-Mugan group are not as diverse, nor as sophisticated as those from Kvemo Kartli and the Ararat Plain.

Most tools are expedient flakes, with retouched implements very much in the minority. Both the scarceness of cores, indicating that nuclei were fully expended, and the coarseness of flint suggests the community of Kamiltepe might well have been excluded from stone resources.

Neolithic sites have also yielded many ground stone tools used for grinding, pounding, abrading, and chopping. Items include rubbers and saddle querns, mortars and flat grinding slabs, wasted hammers and edge-ground axes, sling-stones, and ‘polishing tools’, as well as bun-shaped grooved stones possibly used as spoke-shaves, and perforated stone weights (Figure 3.10(7–14)).¹⁰³ Amongst the Kvemo Kartli sites, these macrolithics are fashioned from several stones such as sandstone, basalt, and granite. While food processing was their main function, traces of ochre on some slabs from Imiris Gora indicate that grinding colour and minerals was also a function in later periods. Similarly, the Khramis Didi Gora macrolithics point to craft production – sharpening wood and polishing bone – at the end of the Neolithic. Edge-ground axes, fairly ubiquitous in the south Caucasus, are quite rare in the Near East. Quite different in form from these macrolithics are the stone balls used as slingshots from

¹⁰² Badalyan et al. 2007: 48. Lever-pressured blades are attested in the Tigris and Euphrates Valleys and the Anatolian Plateau from the Pre-Pottery Neolithic B; see Alunbilek-Algül et al. 2012.

¹⁰³ Hamon 2008 (Kvemo Kartli); Badalyan et al. 2010: 197–8 (Aknashen-Khatunarkh).

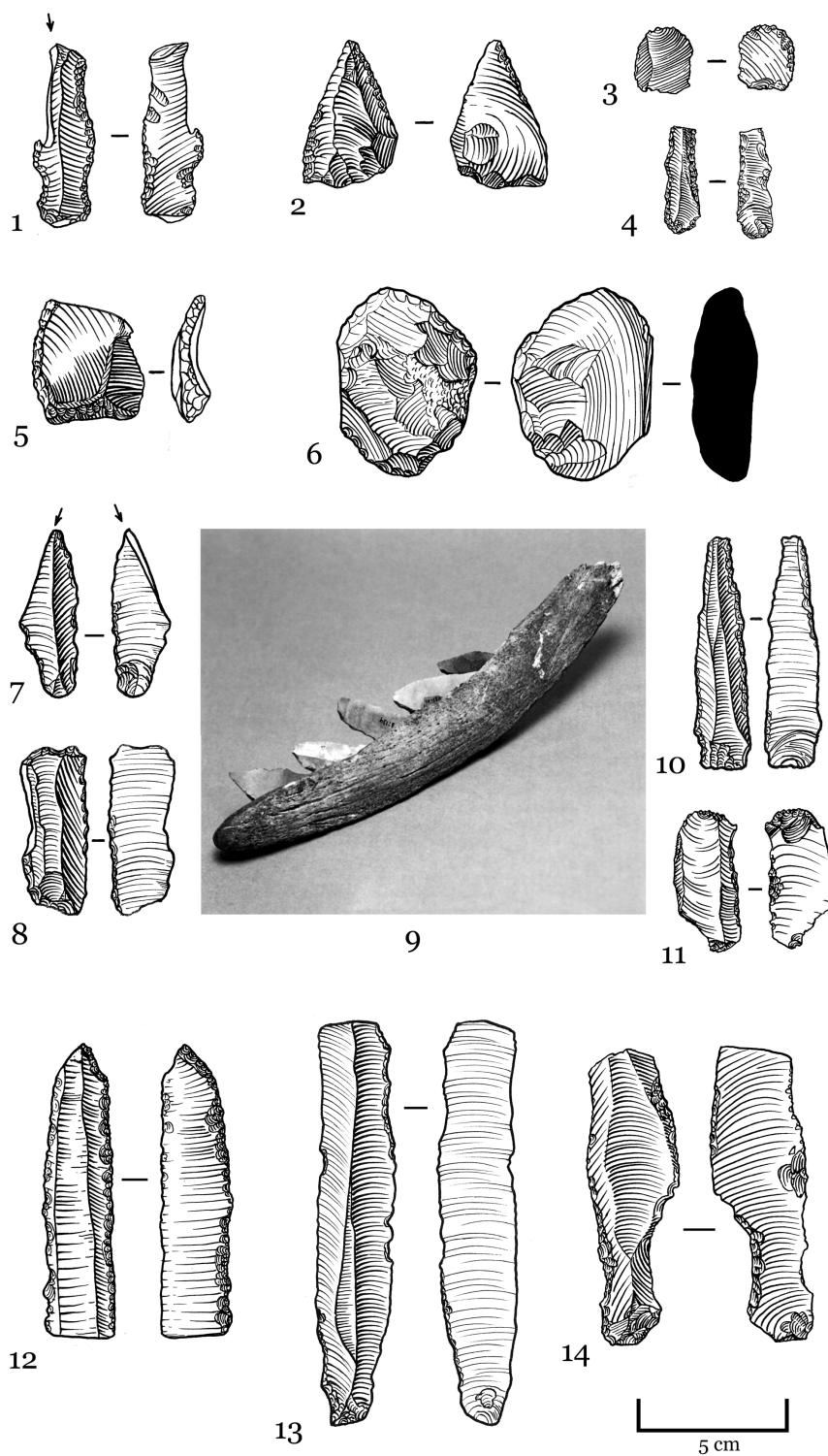


Figure 3.12. Neolithic flake Stone tools from the southern Caucasus: (1–5, 6, 11, 14) Shulaveris Gora; (7, 8, 10, 13) Imiris Gora; (12) Khramis Didi Gora (after Kiguradze 1986, Kiguradze and Menabde 2004, photograph courtesy the late T. Kiguradze).

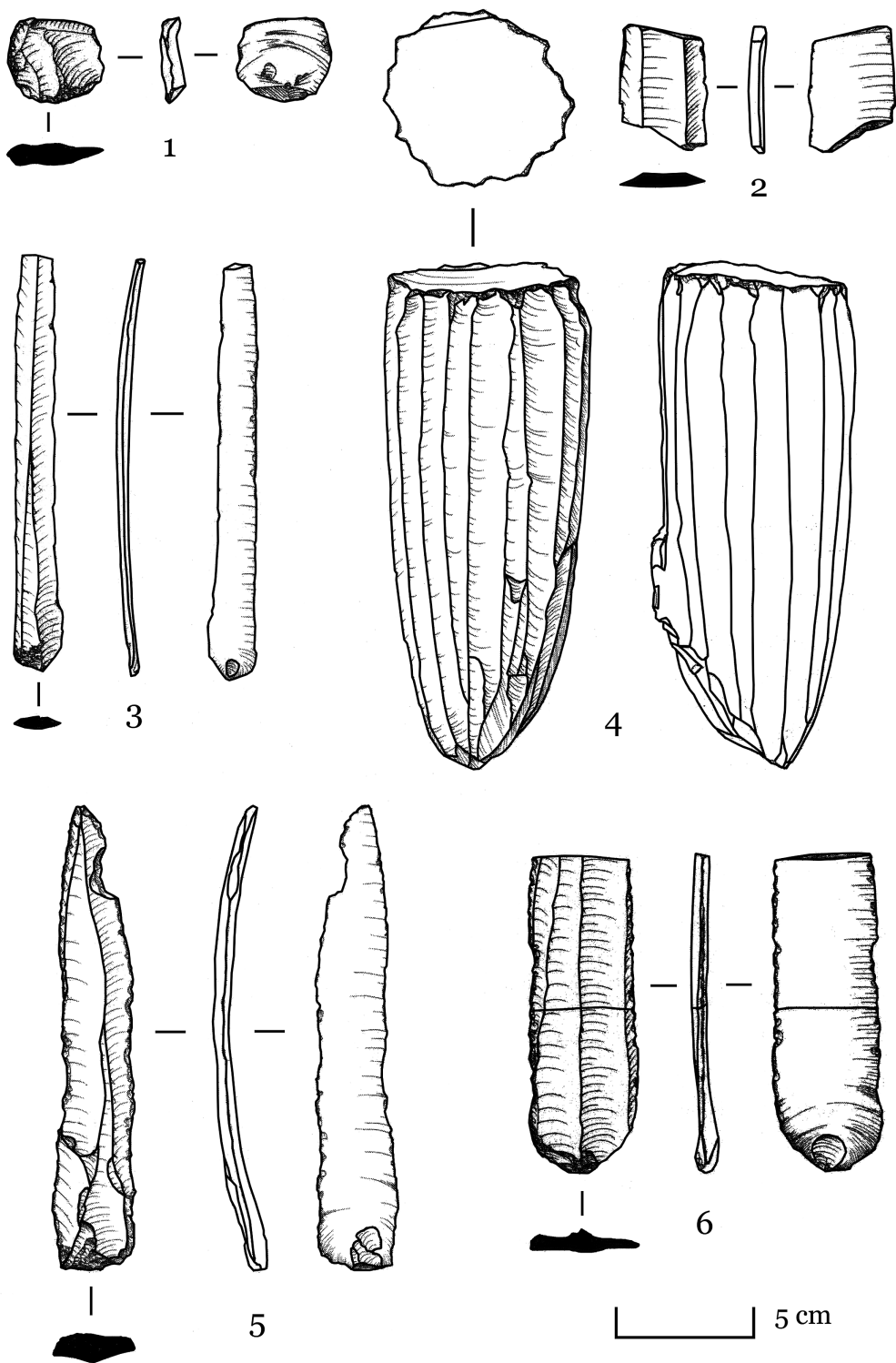


Figure 3.13. Neolithic flake stone tools and prismatic core from Aratashen (after Badalyan et al. 2007).

Shomutepe, with one room containing 155 examples.¹⁰⁴ A similar situation has been reported for the north-western Caucasus.¹⁰⁵

BONE AND ANTLER

Bone and antler tools are also very common in the south central and southern Caucasus, but their distribution is by no means homogenous (Figures 3.14 and 3.15). Antler hoes, for instance, so common at sites in Kvemo Kartli and also at Göytepe, are absent from Aratashen.¹⁰⁶ The industry is highly developed at Imiris Gora, Khramis Didi Gora, Shomutepe, and Göytepe. The assemblage includes awls, borers, and socketed hoes (Figure 3.14). At Shomutepe we also have an eyed needle and a spoon, similar to those found at Kvemo-Kartli sites and at Aratashen.

Kiguradze defined several clear evolutionary stages in bone tool production for the Kvemo Kartli sites: Stage I (Shulaveri Gora IX–IV) yielded very few bone artefacts, mostly awls, borers, spoons, and antler hoes. The same set of tools is found in Stage II, which now also included a needle, a toggle pin, and a pendant made from the jaw of a dog. Many ‘polishers’, some incised, made from cattle bones are also part of the repertoire. These may have been used for burnishing leather, or even as netting spacers. From Imiris Gora come two projectile points. Hoes were particularly massive, comprising a perforated segment of a large antler crown. The bone tools from western Azerbaijan are not as clearly differentiated, though the number of hoes suggests some association with the upper levels at Imiris Gora.¹⁰⁷

The general trend in bone production amongst the Shulaveri-Shomutepe sites, then, is an increase in quantity and diversity, especially in agricultural (and fishing) implements such as hoes and polishers (netting spacers or spacers for textiles generally), from the lower levels at Shulaveri Gora onwards. Curiously, however, neither bone nor clay spindle-whorls are amongst the Kvemo Kartli finds. Bone tools more than ceramics have affinities with neighbouring regions. Anatolian connections are seen in the finely carved spoons (Figure 3.15(9)), which are found as far away as Ilipinar in the north-west, where they are particularly common.¹⁰⁸ Shaft-hole hammers made from antler are part of the Tilkitepe Level III assemblage, and piercing tools and spatulae are also fairly ubiquitous.

The Ararat region also has a rich bone industry, particularly well represented at Aratashen. A vast number of items came from Level IIb, including awls, projectile points, spatulae, hoes, sickle handles, ‘dibbles’ (a small hand implement used to make holes in soil, especially for planting bulbs or seedlings),

¹⁰⁴ Narimanov 1965: 49.

¹⁰⁵ Formozov 1965: 58.

¹⁰⁶ Lyonnet and Guliyev 2010: 222; Badalyan et al. 2007.

¹⁰⁷ Korobkova 1979.

¹⁰⁸ Sagona and Zimansky 2009: fig. 4.21.

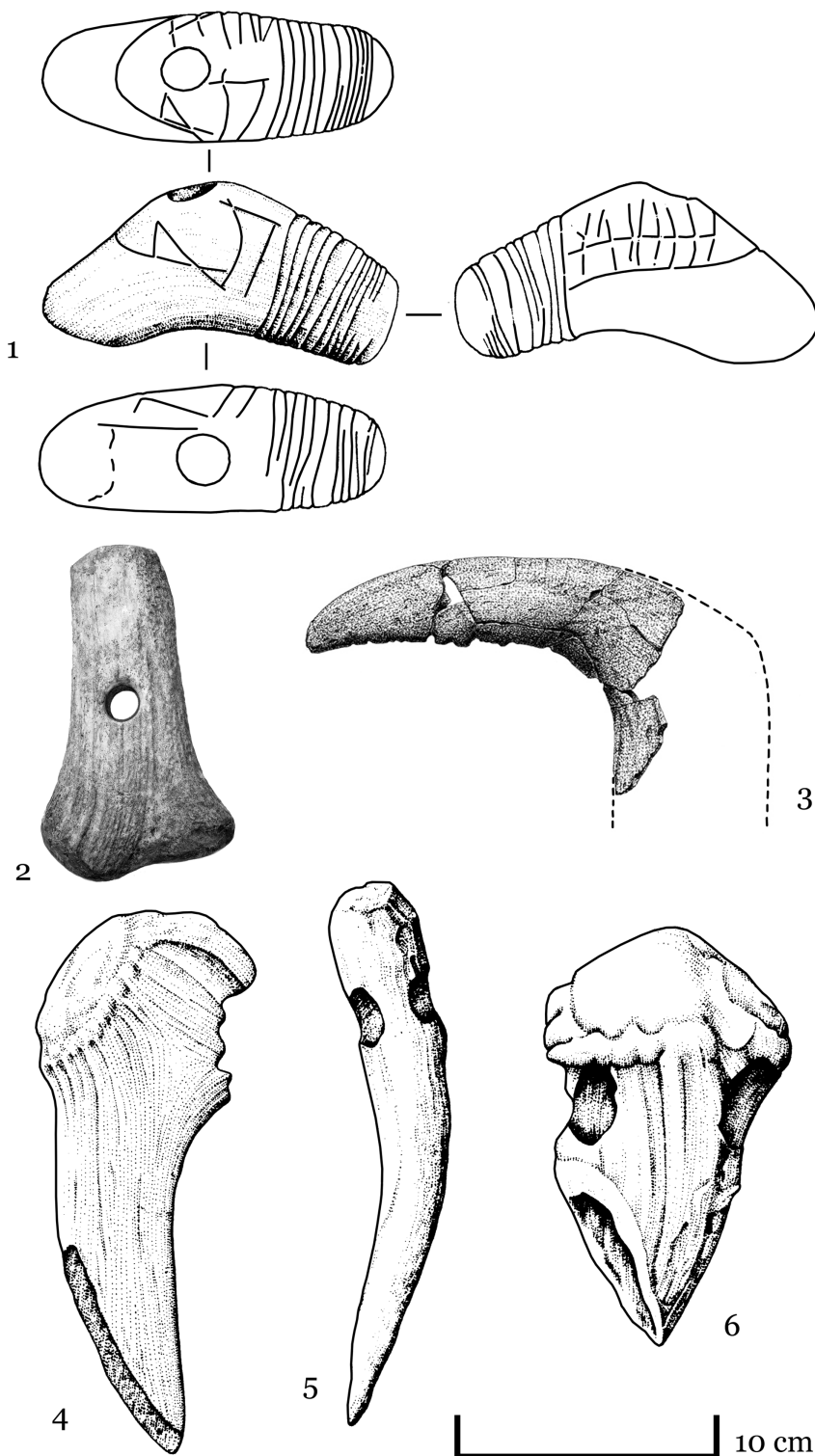


Figure 3.14. A selection of Neolithic bone tools from the southern Caucasus: **(1–2,** **5–6)** Khramis Didi Gora (after Kiguradze 1986); **(3)** Aratashen (courtesy R. Badalyan); **(4)** Shulaveris Gora (after Kiguradze 1986, photograph A. Sagona).

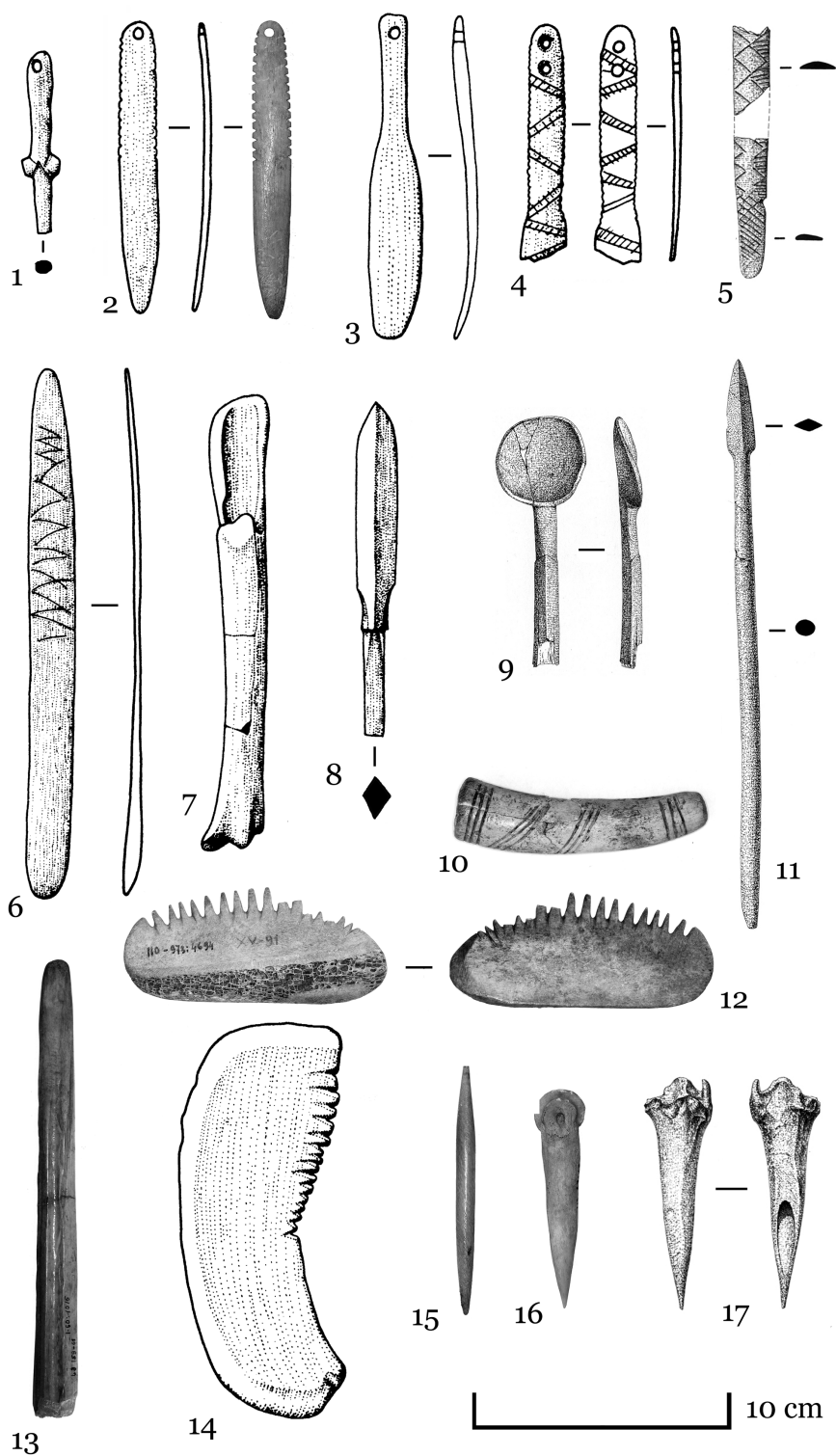


Figure 3.15. A selection of Neolithic bone tools: (1–2, 4, 6–8) Imiris Gora (after Kiguradze 1986); (5, 9, 11, 17) Aratashen (courtesy R. Badalyan); (3, 10, 12–16) Khramis Didi Gora (after Kigurade 1986, photographs A. Sagona).

and spoons.¹⁰⁹ Of the Mil-Mugan group, Göytepe has a particularly rich bone assemblage – shovels, perforated antler hoes similar to those found at Kvemo Kartli sites, and hammers ornamented with incisions.¹¹⁰ Much the same repertoire is found at Kültepe, Alikemek Tepesi, and Tekhut, where a sickle haft was made from a cattle femur.

METALS, METALLURGY AND OTHER CRAFTS

The late sixth and early fifth millennia BC ushered in metalworking in the southern Caucasus. Of considerable interest are a few metal objects of indeterminate purpose from Kültepe I, whose elemental constituents included arsenic (1.1–1.5 per cent) and nickel (1.6 per cent).¹¹¹ Metal objects from Tekhut, including a couple of sections of a square-sectioned awl, also yielded high arsenic readings.¹¹² From the uppermost horizon at Alikemek Tepesi came 150 beads, some made from copper. From Level IIb at Aratashen came a copper bracelet made from fifty-seven beads of rolled copper leaf with an average weight of less than half a gram each. There are comparable items from Kvemo Kartli (at Khramis Didi Gora, Gargalar Tepesi and Arukhlo), where several pieces of azurite have also been found at Arukhlo, but the strongest pulses in this fledgling metal industry came from Mil-Mugan steppes and the Ararat Plain.¹¹³

Special items and evidence of jewellery began to emerge. Two mace-heads from Arukhlo are significant small finds: one is knobbed and fashioned from basalt, and unknown within the Shulaveri-Shomutepe group, whereas the other is circular.¹¹⁴ At Kamiltepe, 3,766 shell fragments, the debris from bead production, point to an active bead workshop.¹¹⁵ Finally, we see the beginnings of far-flung connections with central Asia and its borderlands in a handful of turquoise and carnelian beads from several of the sites.¹¹⁶

Plants, Animals, and People

The earliest farmers of the southern Caucasus did not choose the alluvium of the Iori and Alazani valleys, the most fertile areas in the region, but preferred the light chestnut soils, where dry farming of cereals involves a considerable amount of risk. Proximity to stands of wild cereals and the general increase

¹⁰⁹ Badalyan et al. 2007: 49–50.

¹¹⁰ Narimanov 1965: 50, 1987; Kiguradze 1976: 157–8; Lyonnet and Guliyev 2010: 222; Guliyev and Nishiaki 2012a, 2012b.

¹¹¹ Selimkhanov and Mareshal 1966: 146–7.

¹¹² Selimkhanov and Mareshal 1966: 145–6.

¹¹³ Hansen and Mirtskhulava 2012: 84–5.

¹¹⁴ Bastert-Lamprichs and Scholtzhauer 2011: fig. 48.

¹¹⁵ Heit 2012: 48.

¹¹⁶ Arukhlo (Neumann 2012: figs 124, 125).

in precipitation at the beginning of the Neolithic no doubt played a role in determining the choice of site.¹¹⁷ These sedentary communities in the Kura-Araxes basin appear on the scene with a broad spectrum of crops (emmer, hulled barley, lentil, grass pea, and bitter vetch) and domesticated animals, although regional variations occur.¹¹⁸ Interestingly, this diversity of crops is far greater than is found at early agricultural sites located on the eastern side of the Caspian Sea, in the Gorgan Plain of Iran and in south-western Turkmenistan, where pulses are absent.¹¹⁹ In terms of animal remains, recent systematic evidence from Aratashen, Aknashen-Khatunarkh, Kamiltepe, Mentesh Tepe, and Arukhlo I date the arrival of domesticated animals securely to the very beginning of the sixth millennium BC.¹²⁰ Compared to neighbouring regions, subsistence strategies arrived late in the Caucasus. As Rémi Berthon aptly wrote, ‘The upper limit of the radiocarbon range at Arukhlo I is 2500 years later than the earliest sheep, goat and pig in the Upper Euphrates region and 1500 years later than the earliest domestic cattle in the same region’.¹²¹

In a study of the material from Neolithic sites of Aratashen and Aknashen-Khatunarkh, we learn that farmers cultivated naked barley and possibly naked (free-threshing) wheat, as well as emmer and hulled barley.¹²² Crop-processing residues found in remnants of *pisé* reveal two wild crucifers, *Camelina microcarpa* (false flax) and *Alyssum desertorum* (alyssum), possibly used as a source of oil. Other finds include pulses, *Lens culinaris* (small-seeded lentil), and *Vicia ervilia* (bitter vetch).

The community at Shulaveri Gora had a fully fledged economy based primarily on animal husbandry. They raised sheep, goats, pigs, and cattle, and supplemented their subsistence economy with hunting and fishing.¹²³ According to some researchers, the southern Caucasus was one of seven centres of farming in the ancient Near East.¹²⁴ One of its most remarkable features is the diversity of its wheat species, of which ten have been identified in Neolithic deposits: *Triticum aestivum* (*T. vulgare*), *T. compactum*, *T. dicoccum*, *T. aegilopoides*, *T. spelta*, *T. sphaerococcum*, *T. durum*, *T. macha*, *T. carthlicum* (*T. persicum*), and *T. turgidum*. Farmers also grew flat- and multi-line species of barley, sorghum, oats, lentils, the common pea, and probably millet. Other than *T. turgidum*, all these species were found at the Kvemo Kartli sites.

From a global perspective, however, it is the discovery of the earliest domesticated grape pips (*Vitis vinifera vinifera*) from Shulaveri Gora that has captured

¹¹⁷ Lisitsina and Prishchepenko 1977; Lisitsina 1978; Connor and Sagona 2007.

¹¹⁸ Hansen et al. 2006; Hovsepyan and Willcox 2008; Berthon 2014.

¹¹⁹ Decaix and Tengberg 2015.

¹²⁰ Berthon 2014.

¹²¹ Berthon 2014: 9.

¹²² Hovsepyan and Willcox 2008.

¹²³ Tsitsishvili 1969: 27–35.

¹²⁴ Lisitsina and Prishchepenko 1977: 43.

the imagination.¹²⁵ At the moment, evidence suggests that true wine culture began in the southern Caucasus, and from there it spread to the Near East and Europe. The wild variety (*Vitis vinifera sylvestris*) still grows in the forest zones of the southern Caucasus, and indeed two charred pips were found in Level 1 at Aratashen. During the Neolithic, horticulturalists discovered that by rooting and grafting branches they were able to create a vine that was not only self-pollinating, but also produced more abundant fruit. With the domestication of the grape came the need for processing, storing and serving wine. The manufacture of pottery in the Neolithic, then, must have been prompted to a certain extent by this necessity. Reddish residues on the interior of jars from Shulaveri and Khramis Didi Gora support the idea of a sixth-millennium origin of viticulture in the southern Caucasus.

Given the re-thinking of the so-called aceramic Neolithic sites from the western Caucasus, it is not surprising that the zooarchaeological evidence points to a high percentage (30–90 per cent) of wild species.¹²⁶ The dependence on hunting mammals is significantly less (12 per cent) in the middle Kura and Araxes valleys, where animal husbandry based on the herding of sheep, goats, and cattle was the main subsistence strategy.¹²⁷ The degree to which these communities, though fully sedentary, practised herd mobility is one of many questions that must await further evidence.

THE CENTRAL AND NORTHERN CAUCASUS

Like the western Caucasus, known Neolithic settlement of the mountainous central and northern regions is sparse. Salvage excavations carried out in a limited area and under difficult conditions at the site of Cmi revealed a significant late Mesolithic and Neolithic sequence beneath its better-known medieval fortress.¹²⁸ Cmi's position in the narrow Alagir Gorge, within easy reach of a number of prominent routes and passes, including the Ossetian Military Highway, gave its community access to many areas in the Caucasus from western and eastern Georgia and beyond to the Eurasian foothills.

Although the area has suffered from landslides, the settlement at Cmi appears to have measured ca. 200 x 50 m in area with a depth of 1.8 m. The earliest level, Horizon I, divided into two (lower and upper) layers, is quite thin, but is distinctively dark in colour from the large volume of charcoal associated with oval-shaped fireplaces – eight are in the upper layer. Stone tools

¹²⁵ McGovern 2003, 2009. Domesticated grape pips have also been reported from Shomu Tepe (Kushnareva 1997: 157).

¹²⁶ Berthon 2014: fig. II.

¹²⁷ See Berthon 2014: fig. III for a relative representation of sheep and goat, cattle, and pig remains.

¹²⁸ Rostunov et al. 2009.

were predominately manufactured from fine quality dark red flint, though grey, brown, and honey-coloured flint and quartz were also used. Cores were reduced to a small size, suggesting that every effort was made to maximise the available stone. Typologically, the varied tools sit comfortably within an Epi-Palaeolithic repertoire: round, end, and semi-circular scrapers were used for leather- and wood-working, and blades (occasionally segmented) and micro-blades for other activities. Scrapers show evidence of retouching, but not the blades. Debitage could be linked to the production of the micro-blades, suggesting that other tools were knapped elsewhere on the site, though the limited area of excavation precluded discerning the function of the space. Radiocarbon samples from the fireplaces dated this level to 6505–6345 cal BC.

A thin layer of organic soil separates the lowest level from the next level (Horizon 2), which shows a marked cultural shift that the excavators assigned to the Early Neolithic. Hearths are again a feature, but this time associated with flat stones and a large number of animal bones, which have not been studied as yet. Lithic typology and stone resources change. Cores are common and narrow, and found in proximity to hearths. They were used to fashion blades and micro-blades that are often segmented, some into trapezes; scrapers have all but disappeared. Honey-coloured flint is used, suggesting a shift in resource access. Horizon 2 is dated to the first quarter of the sixth millennium BC.

Higher up the sequence, above a sterile layer, is Horizon 3. Apart from a few flecks of charcoal, it yielded no evidence of fireplaces or posts, and only few animal bones. The most important discovery was a coarse straight-sided jar, ensuring a Pottery Neolithic attribution for the level. The container had a rough surface, perfunctorily polished on the outside, and pairs of small knobs placed under the rim. Both form and fabric of this vessel recall those from Chokh in Dagestan, which had an agricultural community; the period is radiocarbon dated to the first half of the sixth millennium BC. Looking regionally, we can say that Cmi has parallels with sequences on both sides of the Caucasus, but it can be best compared with Darkveti, which also shows a change in lithic typology between late Mesolithic and early Neolithic, though it is not a blueprint of those periods at Cmi.¹²⁹

CONTACT AND EXCHANGE: OBSIDIAN

The southern Caucasus, especially Armenia, like Anatolia, is rich in obsidian; however, when obsidian studies of the Near Eastern and Mediterranean sources began in the mid-1960s, the south Caucasian flows were barely studied. Since the 1990s, a series of techniques including X-ray fluorescence, neutron activation and fission-track dating, have been used to analyse well over a thousand samples. Twenty-three obsidian sources, stretching across more than

¹²⁹ Rostunov et al. 2009: fig. 19.

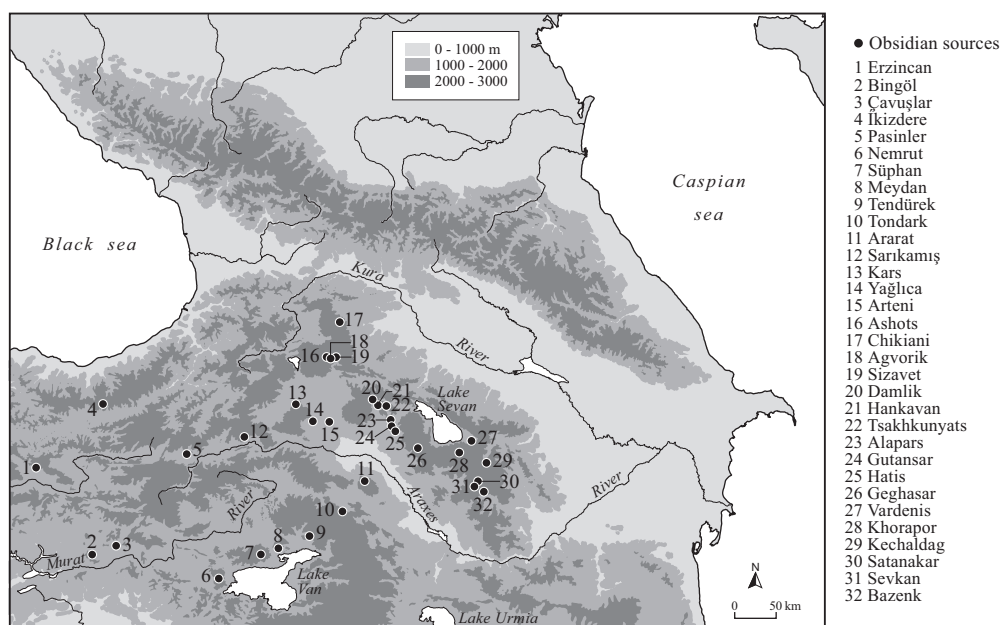


Figure 3.16. Map showing the main obsidian sources (after Badalyan 2010, drawn by C. Jayasuriya).

300 km of the rugged Lesser Caucasus ranges, have been identified within five discrete obsidian-bearing regions (Figure 3.16).¹³⁰ All except two of the sources (Chikiani and Kelbadzhar) are within the modern Republic of Armenia, and a good number of these are in fairly remote locations. Equally significant are the studies that propose exchange models, which attempt to explain the social and economic patterns behind the procurement and consumption of raw materials.¹³¹ Using a Geographic Information System, one study found, not surprisingly, that communities procured obsidian from the source closest to their base.¹³² This ‘time-distance’ model argues that the distance factor should not be calculated as the crow flies, but instead on the maximum time acceptable to procure the raw material.

Intense volcanism and the effects of tectonic and seismic activity have shaped the Armenian landscape. Geologically speaking, the region comprises two volcanic zones – western and eastern – punctuated by a series of extrusive dome-shaped volcanic cones, around which cluster distinctive obsidian sources.¹³³ The northernmost sources are located in the Dzhavakheti Range. These are the Chikiani outcrops on the eastern shore of Lake Paravani in

¹³⁰ Studies include Keller and Seifried 1990; Keller et al. 1996; Blackman et al. 1998; Badalyan et al. 2004b: 437–57; Cherry et al. 2010. See also Badalyan 2010: n. 1.

¹³¹ Badalyan et al. 2004b: 457–64; Badalyan 2010.

¹³² Barge and Chataigner 2010.

¹³³ Karapetyan et al. 2010.

southern Georgia and the Eni-Ēl source in the Ashtosk region of north-western Armenia. Chikiani obsidian is of the highest quality and was much prized – homogenous throughout, its trace elements do vary according to gradual evolution of the lava flows between 2.6 and 2.3 million years ago. Although this abundant source is situated just under 2,500 m asl, it was easily accessible, notwithstanding the climatic restrictions of winter. But the communities in the surrounding villages did not have to visit the source itself, for the Khrami River, which cuts a course through the Djavakheti Range, distributes large quantities of obsidian cobblestones down its course. Chikiani obsidian has a wide geographical distribution, extending from sites in western Georgia on the Black Sea to the shores of the Caspian. An alluvial deposit is located near Shirakavan, comprising small river pebbles that have been carried downstream from a source near Kars. Curiously, although this secondary source is abundant and the environs (in the Shirak Plain) were well settled in late prehistory, the source does not appear to have been used. The massive Mt Aragats and its plateau have several obsidian outcrops within their rhyolite complex: Pokr Arteni, Mets Arteni, Satani Dar, and Aragats. The most abundant and highest quality obsidian comes from Pokr Arteni and Aragats, both of which are quite accessible. On the whole, however, obsidian from this Arteni complex had a limited distribution.

Some of the highest sources in Armenia and also the oldest are located in the Tsakhunyats Range, north of the Aragats massif. At least six flows have been identified, distinguished by their high barium content and superior quality: Damlik Tumb, Ttvakar, Kamakar, Arkayasar, Aikasar, and Dalar. Harsh winters preclude access to these primary sources between mid-November and early May, but below them is a tangle of steep gorges and torrential streams that carry the obsidian along the Marmarik and Kasakh Rivers, thereby creating readily available secondary deposits.

Another cluster of sources comprise the so-called Hrazdan-Abovyan group situated in the Gegam Plateau, including flows from the Gutansar, Fontan, Alapars, and Hatis volcanoes, in the western region, and the Spitaksar and Gekhasar cones (the Martuni group) along the southern edge. Of these, the Gutansar source is very rich, often represented by huge blocks of obsidian of a very high quality. Gutansar obsidian has a wide distribution that goes well beyond its immediate hub between the eastern Ararat Plain and Lake Sevan. It travelled down the full length of the Zagros Mountains to settlements in south-western Iran.¹³⁴ Four deposits (Akunk, Zerborian, Xian-Xian, and Kaputan) form the Hatis source, which is less extensive than neighbouring Gutansar. Easily identifiable by its feldspar inclusions, Hatis obsidian was utilised from early prehistory. The most recently formed flows are found around

¹³⁴ Badalyan et al. 2004b: 452.

the Spitaksar and Geghasar volcanoes, which are amongst the highest peaks in Armenia. Obsidian is found on their slopes within a band between 3,200 and 3,000 m in altitude, a steppe environment with severe winters, which allows access only between early June and mid-October. Visually, the obsidian from these two sources varies greatly. The Geghasar variety ranges in colour from transparent through red and brown to grey and black, whereas Spitaksar obsidian is peppered with crystalline inclusions, rendering it of limited value in tool manufacture. Even less useful is the obsidian from Khorapor on the Vardenis massif to the south-east of Lake Sevan. It is highly crystalline and consists of small nodules, which are embedded in a rhyolitic matrix.

Finally, there are sources on the Syunik (Karabagh) Plateau in south-eastern Armenia near the Azerbaijani border. These, too, are situated at a high altitude and five obsidian sources occur along the flanks of four volcanic domes – Bazenk, Pokr Sevkar, Mets Sevkar, and Satanakar.¹³⁵ These flows are abundant in high-quality obsidian, mostly black to dark grey in colour and generally free of crystals, which is available in large blocks. Rivers also carry obsidian from these flows further downstream. Although the size of the pebbles is much reduced, they were, nonetheless, valuable secondary deposits when snow covered the primary sources during the long winter months. An abundance of tools and workshops litter these sources of raw material and attest to their desirability. Recent analyses confirm that the Syunik sources are distinguished by their high thorium contents. On the other side of the geopolitical border, on the Azerbaijani extension of the Syunik Range, is the Kechaldag (Merkasar) volcano, where Kelbadzhar obsidian can be reached at high altitudes. It is the least understood of the south Caucasian obsidian sources, though enough data exists to separate it into two groups – Kelbadzhar I and II. Obsidian from the Syunik deposits appears to have travelled well beyond its source. There is a heavy concentration at Alikemek Tepesi, 250 km to the east, and a trail of obsidian artefacts found at sites from the Lake Urmia region down the Zagros chain to south-western Iran.

Patterns of Procurement

Some clear patterns of obsidian procurement and consumption are beginning to emerge for the periods from the Neolithic to the early Iron Age. A common theme that runs through each period is multi-sourcing. Although communities may have preferred obsidian from a specific source, their artefacts show a more varied procurement pattern. During the Neolithic period, for instance, an analysis of five settlements in the Ararat Plain has shown that they exploited between three to six sources, but the most favoured was the Arteni flow, which,

¹³⁵ Cherry et al. 2010. I would like to thank Ruben Badalyan and John Cherry for taking me to see these stunning sources.

on average, was used to produce 69 per cent of the total lithic assemblage. Even so, the main concentration of Arteni obsidian was found at the northern sites (Aratashen, Ada Blur, Mashtots Blur, and Masis Blur), with villages in the south-eastern area of the Ararat Plain preferring Gutansar and Hatis obsidian. Most of the obsidian in Georgia derives from the Chikiani source, except in the case of the Alazani valley, where communities also exploited Armenian sources. Analyses have also shown that the inhabitants of Alikemek Tepesi used Kelbadzhar obsidian from some 300 km away.

This pattern changed during the Early Bronze Age. Hatis obsidian was increasingly exploited by villagers in the Ararat Plain, with a commensurate drop in the utilisation of the Arteni. In the southern part of the Ararat Plain, however, the picture is more varied, with communities acquiring obsidian from Geghasar as well. In the Shirak Plateau, Arteni remained the main source overall and amongst the southern sites, although at the northern site of Ketī villagers obtained most of their obsidian (66.7 per cent) from the unidentified TCUNK 1 source.¹³⁶ About 2,000 years later, in the early Iron Age, Arteni obsidian is the predominant type across the Shirak region. The sites of Berdshen (settlement) and Verin Naver (cemetery), situated no more than 4 km from each other, clearly reveal that sites in close proximity did not necessarily share similar resources. The deceased were buried at Verin Naver with tools primarily knapped from Arteni obsidian (40 per cent), whereas the Berdshen villagers exploited the Damlik and Ttvakar sources from the Tsaghkuniats volcano. On the fringes of Lake Sevan, inhabitants of sites preferred sources along the Gegham ridge.

CONCLUSION

A feature of the Neolithic of the Caucasus is the careful siting of settlements to take advantage of soils for cultivation and grazing. With no apparent local antecedents, the agrarian groups of the Kura-Araxes interfluvium reflect their Near Eastern origins – they built mud-brick or *pisé* architecture, they cultivated domesticated cereals and practised animal husbandry, and they manufactured a range of tools – such as ground stone objects – that are commonly associated with farming communities. Although these pioneers have long been viewed as immigrants from further south, in northern Mesopotamia or Iran, the degree to which they might have interacted with the indigenous Late Mesolithic communities is a matter for future research to determine. Likewise, the discussion of the Pre-Pottery Neolithic must await more detailed evidence.

Evidence for interconnectivity in the Late Neolithic periods is growing. The interplay that existed in Anatolia between the polities south of the Taurus Mountains and settlements located along the Turkish Upper Euphrates and its

¹³⁶ Badalyan 2010: 31.

tributaries is well known.¹³⁷ It is quite likely that the southern Caucasus was drawn into this network of trade and interaction, even though the nature of the interaction has yet to be determined. In Upper Mesopotamia, craft production flourished to satisfy the demands of an emerging elite. Long-distance trade networks and a formative organisational system, reflected in the use of seals, were established to cope with the demand for raw materials. These systems were by no means as uniform and intensive as those that were to appear later in the Uruk period, but they were nonetheless far-flung. To what extent the southern Caucasus was part of this network is not clear. Although present evidence does not indicate that Armenian obsidian travelled to distant lands, its rich sources were a desirable target for communities in the immediate environs. We can say that contact between Anatolia and the south Caucasus would not have crossed over the highlands of north-eastern Anatolia, because there is a singular lack of evidence along that route, but instead people followed the arc of the Taurus Mountains and then turned northwards towards Armenia and Azerbaijan. The earliest firm link with surrounding regions is represented by fragments of unequivocally Halaf pottery.

Conceptually, these south Caucasian Neolithic settlements call to mind the 'keyhole plan' of the Middle Halaf, leading some to conjecture a northern origin for the Upper Mesopotamian round house tradition.¹³⁸ The eventual evolution from round to rectilinear houses is significant because it is not simply one of shape and design, but the change also underpins shifting social behaviour and altered economic structures. At its core are different approaches to risk management. Initially, each individual in the Neolithic south Caucasus probably had a round hut, and preferred to share food and store commodities in a communal area; as a community, they shouldered rewards and risks together. Rectilinear dwellings that were already in use in Anatolia, on the other hand, focused on the nuclear family within a closed house plan and private storage facilities were the norm.

¹³⁷ Sagona and Zimansky 2009: 125–7; Castro Gessner 2011.

¹³⁸ Dzhavakhishvili 1973; Mellaart 1975: 203.

CHAPTER 4

FAR-FLUNG NETWORKS: THE CHALCOLITHIC (5000/4800–3500 BC)

Two decades or so ago, the Chalcolithic period in the Caucasus was difficult to grasp. It was an elusive period, characterised by fuzzy concepts, multiple traditions, and an array of patchy evidence weakly glued together by a small number of radiocarbon readings. Added to this were some striking differences in character between the northern and southern Caucasus sequences.¹ To the south of the Caucasus ridge, regional expressions, represented mostly by settlements, chronologically sandwiched between the earliest farming communities and the appearance of the well-known Kura-Araxes complex, were ‘flat-planed’ into a segment of time with little sense of connectivity. Our understanding of the northern Caucasus and its spectacular Maikop culture fared little better. In contrast to southern Caucasia, the drainage basin of the Kuban and Terek rivers, the heartland of Maikop culture province, was represented through scores of tomb assemblages that overshadowed the importance of its typically shallow and indistinct settlements. This combination of a tomb-dominated northern Caucasus and a settlement-focused southern region resulted in a vacillating and uncertain chronology.

Regional perspectives further complicated the dilemma: should the northern Caucasus be coupled primarily to the Near East, or to Eastern Europe? We are still grappling with this quandary that sets arguments in favour of art historical connections with the literate societies in Mesopotamia against presumed parallels with the Russian steppes. Soviet archaeologists referred to this stretch of fifteen centuries or more in the Caucasus as the Aeneolithic or Eneolithic period, a term still widely used in south-eastern Europe to denote a period when copper metallurgy was adopted by cultures essentially Neolithic

¹ For regional overviews of this prehistoric interlude, referred to by some as Chalcolithic and by others as the Early Bronze Age, see Munchaev 1982, 1994b; Chataigner 1995; Ivanova 2013: 50–129; Wilkinson 2014a.

in character. Terminology remains a problem, with the Maikop culture often attributed to the Early Bronze Age. I have assigned Maikop to the Chalcolithic because its oft-cited links to north-eastern Mesopotamia and neighbouring lands belong to Chalcolithic sequences of those regions. To do otherwise would put it radically out of kilter.

A burgeoning quantity of precise information from both sides of the Caucasus is showing us that this Chalcolithic interlude is far more complex than had formerly been appreciated. Trustworthy contexts accompanied by absolute readings have initiated a paradigm shift in our thinking. In terms of chronology, we now have a skeletal framework, which has placed the region's far-reaching and salient dynamics into a more coherent picture. It now appears that communities in the Caucasus during the late fifth and fourth millennia BC were involved in the subtle interplay of cultural stimuli that served, at one time or another, to create conditions favourable for development on an impressive scale. Following sporadic and subdued foreign contacts during the south Caucasian Neolithic, social and economic networks emerged that stretched from the Kuban region and south-eastern Caucasia across the highlands of eastern Anatolia and southwards, over the Taurus Mountains, into the north Mesopotamian Plain. The long arm of communication even stretched far into central Asia. These new data have also opened our eyes to a metallurgical precociousness and distinctiveness that is still only partially understood.

There is a general consensus that the Chalcolithic in the southern Caucasus can be split into two broad phases: early (5000/4800–4000 BC) and late (4000–3500 BC).² In the northern Caucasus, the early phase is roughly comparable to the pre-Maikop Early Chalcolithic period, whereas the late phase is coeval with the Maikop Culture, which when coupled with its late (Novosvobodnaia) phase extends even further to about 2800 BC.³

Three broad and distinctly different cultural traditions define the Chalcolithic (Figures 4.1 and 4.2). Two are local and derive from late Neolithic groups, while one was clearly shaped by intrusive influences. From north to south the traditions are as follows:

- *The Maikop culture*: known also as the Maikop–Novosvobodnaia Culture–Historical Community, emphasising its two developmental stages, this dominant northern Caucasian tradition is an indigenous cultural expression with far-flung connections. Known mostly from tomb assemblages, some exceptionally wealthy, its phases are yet to be articulated precisely. Recent radiocarbon dates have gone some way in defining an absolute chronology for the Maikop phase that stretched across much of

² Kiguradze 2000; Lyonnet 2007a.

³ Korenevskii 2004; Ivanova 2007; Chernykh 2011; Rezepkin 2012; Kohl and Trifonov 2014. Lyonnet (2007) assigns an end date of 2600 BC for the developed Novosvobodnaia phase.

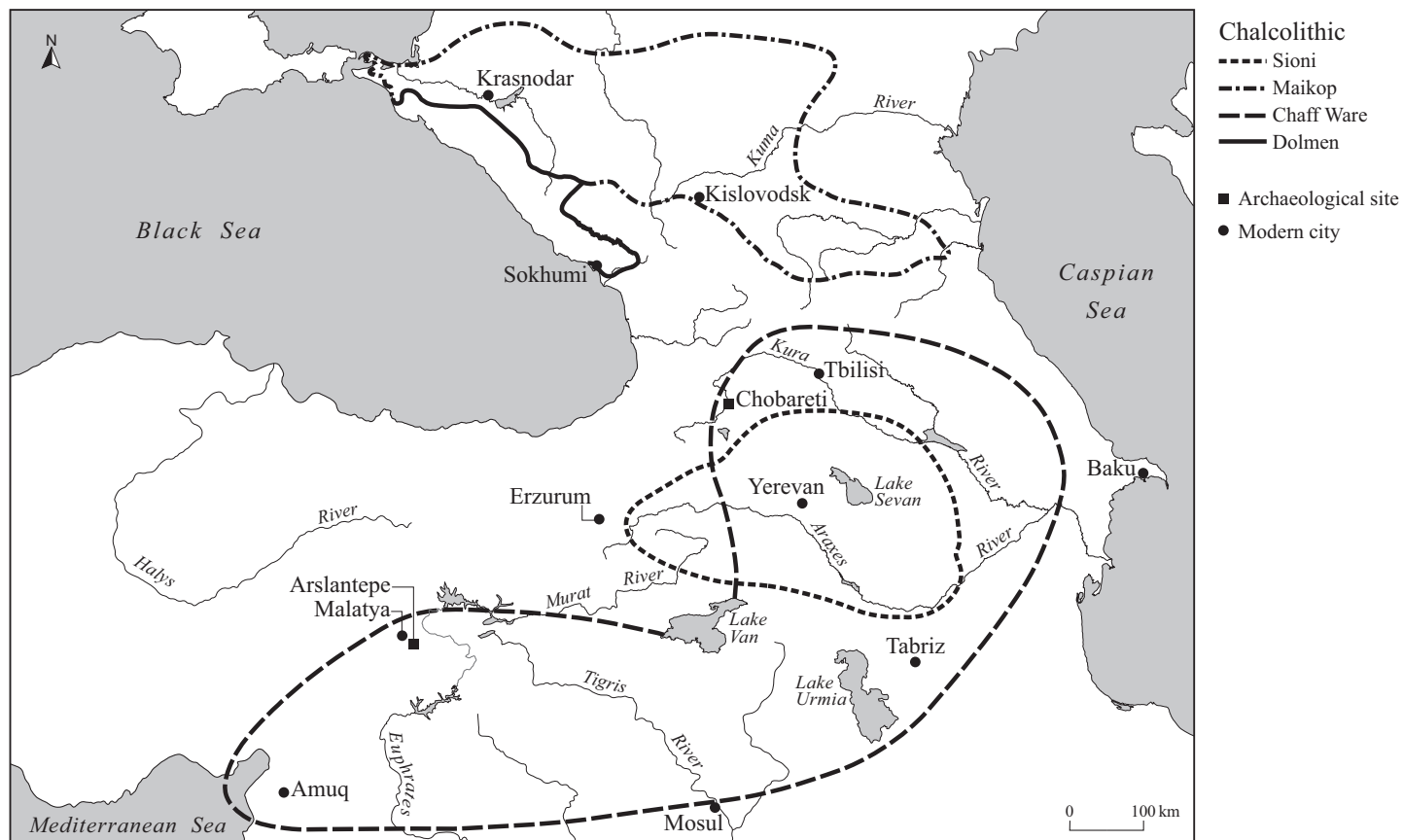


Figure 4.1. Map showing the cultural boundaries of the Maikop, Chaff-Faced Ware, and the Sioni traditions. The dolmen area shows its relationship with Maikop, even though many dolmens were constructed after Maikop (drawn by C. Jayasuriya).

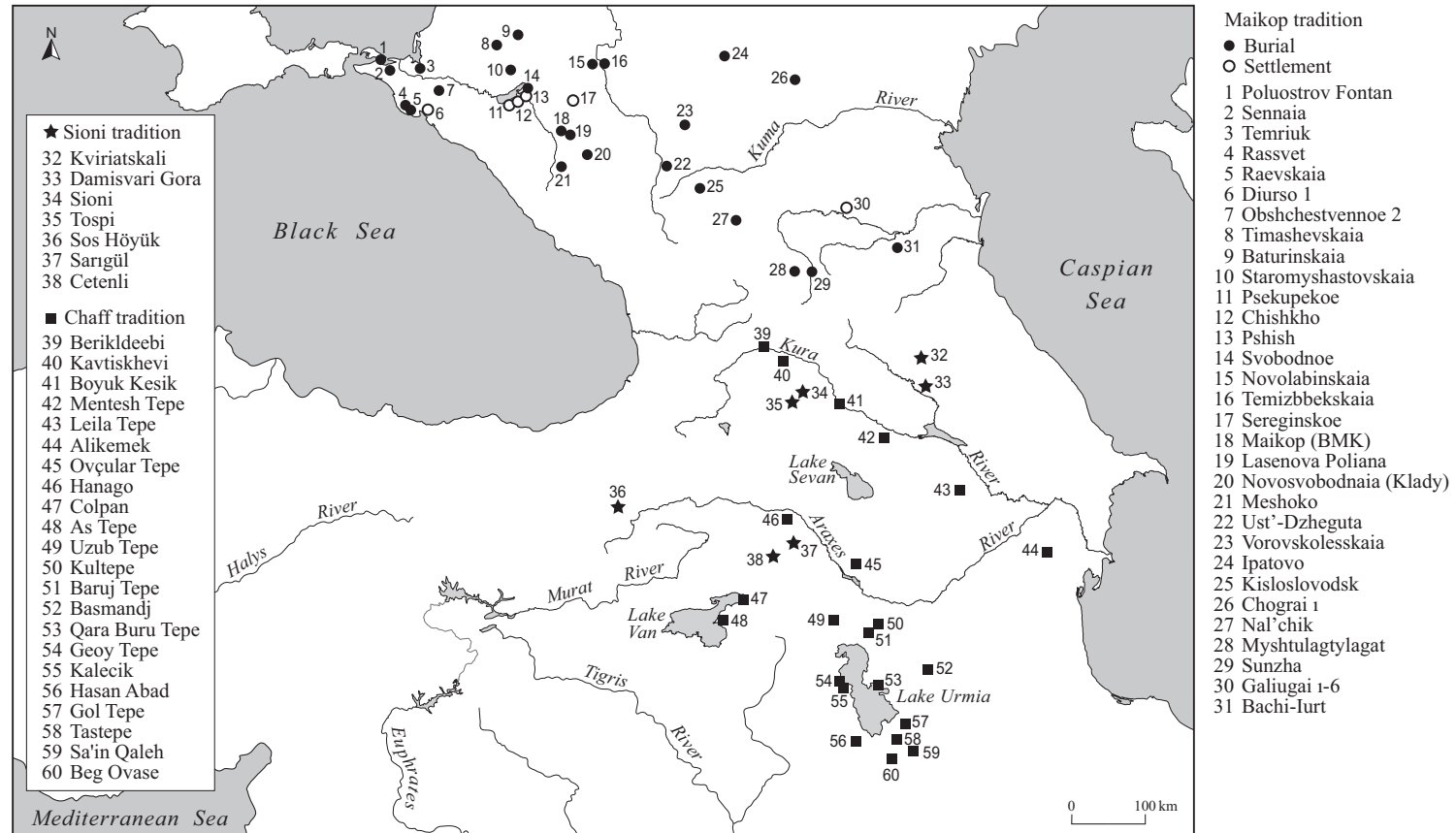


Figure 4.2. Map showing the key sites of the Maikop, Sioni and Chaff-Faced traditions (drawn by C. Jayasuriya).

the fourth millennium BC (ca. 3800–3000 cal BC). Novosvobodnaia dolmens, on the other hand, straddle the fourth–third millennia (3300–2800 cal BC). This places them at the tail end of the Maikop, while also overlapping with the beginning of west Caucasian dolmens (Chapter 6).⁴ The pre-Maikop phase is represented by a handful of sites, including Nal’chik and Meshoko, that belong mostly to the second half of the fifth and the early fourth millennia BC.

- *Chaff-Faced Ware horizon*: well known in Syro-Mesopotamia as Amuq F; this tradition has been found in a considerable number of locations in the southern part of south Caucasia. In Azerbaijan, the Chaff-Faced Ware horizon is referred to as the ‘Leilatepe culture’, which is not an exact mirror image of its Syro-Mesopotamian counterpart. South of the Taurus Mountains, this horizon, comprised of mostly coarse wares, has been placed in the first half of the fourth millennium BC. Chronometric dates from the southern Caucasus generally concur with these dates, though it has been argued that the Azerbaijani sequences may point to an even slightly earlier origin.⁵
- *The Sioni horizon*: this local south Caucasian tradition is the most problematic. We do not have as yet a single clearly articulated settlement – its namesake, located in Georgia, is badly disturbed by later Bronze Age activity. Despite imprecise data, we can track its material culture, mostly pottery, in regions beyond the boundaries of Neolithic occupation. ‘Sioni’ ceramics are found mostly in the south-eastern Caucasus – eastern Georgia, Armenia, and Azerbaijan – and on the Iranian side of the middle Araxes Valley, as well as in easternmost Anatolia.⁶ Its stone tool technology differs from the Neolithic tradition, too, but has yet to be studied in any detail. A few recent absolute dates and loose typologies help bracket this elusive horizon within the fifth through mid-fourth millennia cal BC, though its beginning date is quite blurry: early phase (5000–4000 BC) and late phase (4000–3500 BC).

With this mix of indigenous and foreign communities, northern and southern elements, many questions spring to mind. What was the nature of cultural interaction at this time across the Caucasian ridge, and how intense was the level of communication? Does the apparent hybridity that certain material

⁴ Trifonov et al. 2014.

⁵ Marro 2010.

⁶ Sagona 2014a. For an earlier and now outdated summation with copious illustrations, see Kiguradze and Sagona 2003. The Sioni tradition has occasionally been nuanced even further, largely on the basis of ceramic typology. For instance, it is sometimes split to create a sub-group termed ‘Tsopi-Ginchi’ (Chikovani 1999; Chikovani et al. 2010: 95), a division that does not seem warranted at this stage.

items display reflect social processes? And what stimuli prompted these communities to network over long distances, much further than their Neolithic predecessors?

THE NORTHERN CAUCASUS: THE MAIKOP CULTURE (CA. 3800–2800 BC) AND ITS PREDECESSORS

The Pre-Maikop Horizon (ca. 4500–3800 BC)

Before we turn to the Maikop culture, a review, however summary, of the northern Caucasus prior to the Early Maikop and the appearance of the wealthy barrows will place in context later developments. Our best evidence for this Early Chalcolithic (pre-Maikop) phase comes from the Meshoko settlement and rock shelter; the settlements at Svobodnoe, Agubekovo, and Ginchi; and the cave sites at Kamennomostskaia and Vorontsov; as well as the cemetery at Nal'chik.⁷ This prelude is generally assigned to the period from about 4500 BC to 3600 BC, or a little later, when it seems to overlap with Maikop proper. Recent radiocarbon dates from the Meshoko rock shelter, for instance, place the pre-Maikop Chalcolithic level at 3800–3600 cal BC, followed by a superimposed Maikop occupation.⁸ This invaluable sequence suggests that in the highlands, the local Chalcolithic continued on when Maikop communities had already established themselves in the plains and foothills, their preferred locations.

Both the settlement and the rock shelter at Meshoko were investigated in the late 1950s and early 1960s, and new investigations have continued at the latter since 2011. A segment of a massive stone wall (4 m in width) built of irregular field-stones that once protected the settlement across a 150 m front is preserved to a height of 2 m. Svobodnoe had a similar wall encircling the settlement, which comprised up to 40 houses; at Ginchi, excavations exposed a 15 m-long wall. Ditches around villages were also a common feature. At Veselogo, for instance, excavators uncovered a ditch 2 m wide and 50 cm deep. In the Caucasus, ditches are usually interpreted as defensive in nature, and this is likely if they are associated with a large perimeter wall. As already mentioned (Chapter 3), the evidence of European Neolithic causewayed enclosures suggests it might be possible that in the northern Caucasus ditch digging was a ritual activity associated with the establishment of a village.⁹ This is a persuasive

⁷ Krichevskii and Kruglov 1941; Kruglov and Podgaetskii 1941; Solov'ev 1958; Formozov 1965; Gadzhiev 1966: 55–61; 1975; Korenevskii 1993; Ostashinskii and Cherlenok 2013. For a list of radiocarbon dates, see Ivanova 2007: tables 1–3; Korenevskii 2011: 21–31; Rezepkin 2012: 90–93.

⁸ Ostashinskii and Cherlenok 2013, 2014.

⁹ Jeunesse 2011.

argument, especially for those settlements flanked by deep ravines that had no need to build defensive structures.¹⁰

Houses of these early stock-breeders are shallow and on the whole quite fugitive.¹¹ They were usually freestanding wattle-and-daub structures. At Meshoko, however, they were built up against the defensive wall, so that one wall of the structure was stone and the rest built from posts. From Agubekovo, near Nal'chik, we know people lived in freestanding structures built on a light framework of posts, and at Svobodnoe the community ensured that the central area remained open, perhaps for shared activities.¹² Their homes also had an elevated clay platform (4.7 x 3.6 m) inside, the purpose of which remains uncertain but could have served as a damp course.¹³ The houses at Ginchi, on the other hand, were quite substantial and diverse. Rectilinear buildings with walls 1.5 m thick were fitted with simple round hearths. These structures were found side by side with a few semi-subterranean circular buildings about 2.5 m in diameter and a series of pits.

Re-investigations at the Meshoko rock shelter have discerned six cultural levels (1–6 from top to bottom) with the third and fifth layers providing the richest finds.¹⁴ High quality ceramics, which comprise 15 per cent of several hundred fragments, distinguish Level 3, which was furnished with a shallow oven. Fine wares are generally polished and bear a distinctive ornamentation – raised knobs produced using the *repousée* technique (pushed through from the interior wall) and geometric incisions in the upper part, with the occasional perfunctory pattern burnishing (Figure 4.3(4)). Otherwise, containers have simple profiles with no handles: they are handmade and ovoid with either a rounded or a pointed base. The paste for most ceramics is dark and quite coarse, and tempered with sand, shell, and chaff inclusions; the surface can be fired to a pale colour. Cone-shaped ceramic pot supports are amongst the portable items. Ginchi pottery has a similar coarse fabric that is also polished. Ornamentation is different, however, consisting of incised fishbone and a row of small impressed dots beneath the rim. A fine burnished red ware with a pierced lug attached to the shoulder, as well as a dozen painted sherds, are seen as imports, possibly from territories further south.¹⁵

Small copper knives provide a connection with Maikop. After a sterile layer (Level 4), Level 5 was replete with Maikop artefacts – ceramic containers, hearth hobs (Figure 4.4(2–4)), and even a knife, with a few pieces of the earlier knobbed ware. According to the excavators, Level 3 should be assigned to

¹⁰ Formozov 1965: 96.

¹¹ Formozov 1965: 94–107, and personal communication, E. Cherlenok, Oct. 2015.

¹² Krichevskii and Kruglov 1941.

¹³ Kruglov and Podgaetskii 1941: 170–71 (Dolinskii); Formozov and Chernykh 1964: 108; Nekhaev 1990: 7 (Svobodnoe).

¹⁴ Ostashinskii and Cherlenok 2013; 2014; Ostašinskij and Cerlenok 2015.

¹⁵ Munchaev 1982: 126.

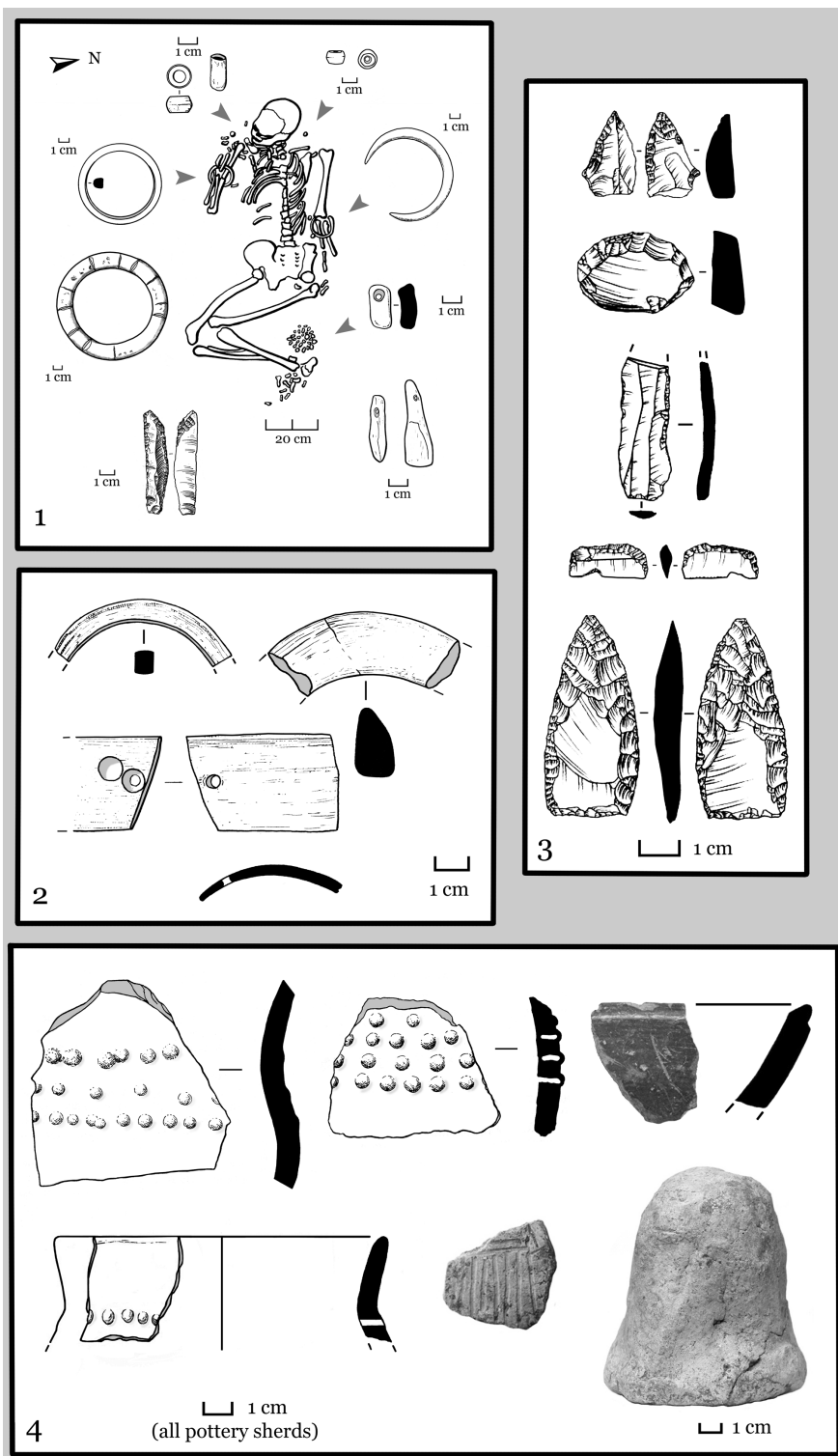


Figure 4.3. Pre-Maikop phase: (1) Nal'chik, Burial 86 (after Munchaev 1994b); (2–4) Meshoko, a selection of artefacts (drawn by C. Sagona after Munchaev 1994b; Ostashinskii and Cherlenok 2014).

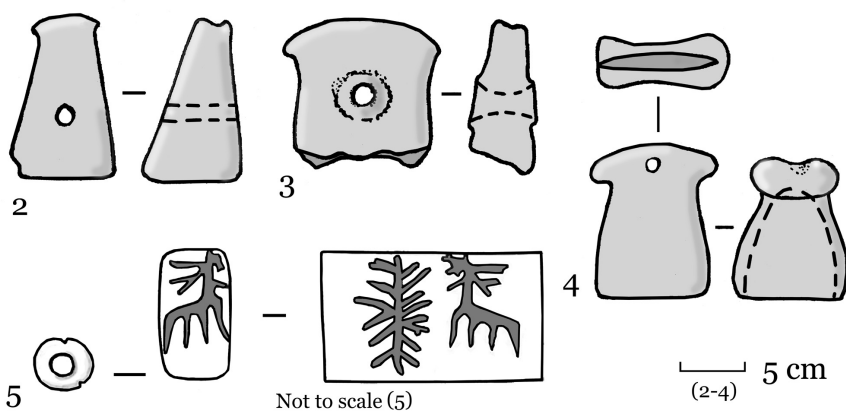
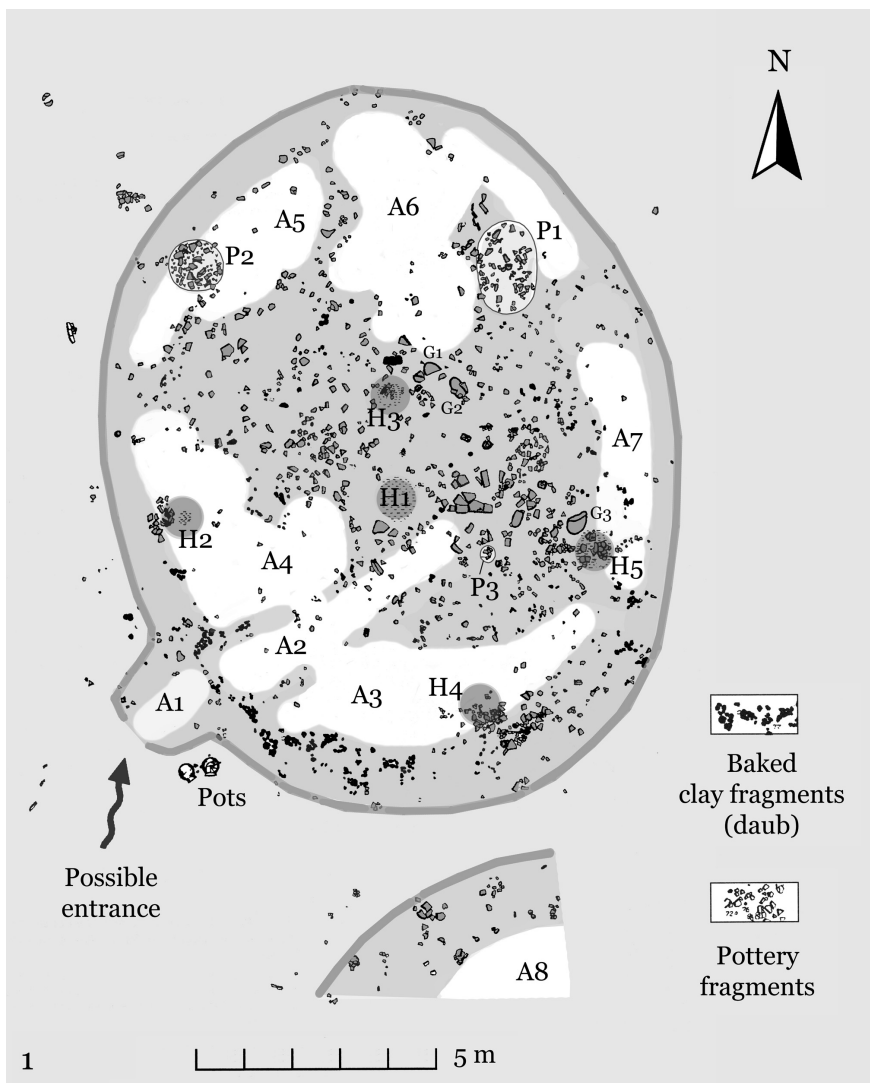


Figure 4.4. Galiugai I: **(1)** Plan of House 2, showing the living areas (in white –A), around which are located features (hearths – H, pits – P, grinding stone – G) and cultural debris; **(2–4)** Perforated clay hearth hobs from Galiugai; **(5)** cylinder seal from Krasnovardeiskoe (drawn by C. Sagona after Korenevskii 2004; Nekhaev 1991).

the period 3800–3600 cal BC on the basis of a radiocarbon reading, which necessarily means that Maikop is later. But this is not such an insurmountable problem if we move away from a unilinear view of cultural evolution. Surely it means that in the mountains the local Chalcolithic continued and for a few centuries was coeval with Maikop, which had established itself in the plains.

Amongst the crafts, stone and bone artefacts are plentiful and clearly distinguish the Meshoko-Svobodnoe period from the subsequent Maikop. At Meshoko alone, some 236 complete edge-ground axes (flat and flanged) and 587 fragments were recorded in just one excavation campaign.¹⁶ This large quantity of worked stone must surely suggest a production centre of some sort, possibly for exchange and trade. Most likely used for woodworking and for forest clearance, these axes have a Neolithic ancestry and by the late Maikop period were largely replaced by metal counterparts. Fine stone bangles vary in cross-section – round, rectangular, lenticular, and triangular (Figure 4.3(2)) – and are made from a variety of stone, such as slate and serpentine. They are particularly common in the Kuban region, where several hundred have been found at Meshoko and Iasenova Poliana; only one example is dated to the late Maikop.¹⁷ Like stone tools, bone products – awls, borers, fish hooks, perforated hammers, eyed needles, spindle whorls, and a spoon – continue the Neolithic tradition.¹⁸ The flaked stone industry at Meshoko is characterised by distinctive triangular and sub-triangular projectile points (Figure 4.3(3)), and is associated with grinders and rubbers.¹⁹ At Agubekovo, chipped stone tools are mostly obsidian and share similarities with those from Dagestan, especially Ginchi.

Communities in the northern Caucasus had a metalworking tradition that differed from their southern neighbours over the mountains. Copper objects of this period are few in number, but quite important, representing the earliest stage of metallurgical activities in the northern Caucasus. Most objects are fragmentary – tools (knife blade and awls) and jewellery (ring, bracelet, and pendant) – and were recovered from Meshoko, Svobodnoe, and Vesiolaia Roshcha II.²⁰ The forms of these artefacts are not of great artistic significance, but their chemical constituents and their age within the wider context of Eurasian cultural developments are of considerable interest.

That some objects, such as the bead from Svobodnoe, had no impurities (pure copper) has led Evgenii Chernykh to suggest that they were imported from the Danube Valley, in line with his idea that Carpatho-Balkan region was a metallurgical centre in the fifth millennium BC.²¹ Likewise, the pendants from Vesiolaia Roshcha II have minimal impurities. These chemical fingerprints plus

¹⁶ Munchaev 1994b: 191. See Nekhaev 1990 for the serpentine examples from Svobodnoe.

¹⁷ Formozov 1965: 70.

¹⁸ Nekhaev 1990: 10; Munchaev 1994b: 197.

¹⁹ Ostashinskii and Cherlenok 2014.

²⁰ Courcier 2007: table 1; Courcier 2014.

²¹ Chernykh et al. 2002.

a handful of sherds from Svobodnoe bearing Cucuteni-Tripolye elements have suggested to some researchers more than a coincidental relationship between the two regions situated on either side of the Black Sea. Indeed, Chernykh has made the bold, but tantalising suggestion that the collapse of the Carpatho-Balkan Metallurgical Province (CBMP) around 4,300 cal BC stimulated the rise of another metalworking centre partly based in the northern Caucasus, namely the Circumpontic Metallurgical Province (CMP).²²

Other evidence points to connectivity between the communities in the northern Caucasus and the north Pontic steppe.²³ The polished stone axes and stone bangles, as well as cross-shaped mace heads and boar's tusk pendants found at Meshoko and Svobodnoe find affinities with sites of Cucuteni A3 to Tripolie B1 date in the Danube River watershed. These external influences should not, however, overshadow local know-how. Courcier notes that most of the metal objects from the northern Caucasus in this period have up to 1.2 per cent arsenic, as well as nickel impurities.²⁴ Together with the crucible from Veselogo, the evidence points to local experimentation with pyro-technology and extractive metallurgy.

Judging by the faunal remains at Meshoko – 217 pigs (52 per cent), 119 cattle (28 per cent), and 73 sheep and goats (18 per cent) – these early north Caucasian villagers were primarily stock-breeders, who also tilled the black soil of the piedmont. All the same, hunting and gathering was keenly practised, as is shown by the wild animal (90 per cent of the total sample) and fruit (wild pear) remains from the Meshoko rock shelter.²⁵ Half of the animal bones from Svobodnoe belong to red deer and boar, suggesting the villagers certainly had a taste for game.

Within the vicinity of the town of Nal'chik, we have a settlement (Agubekovo) and a cemetery (Nal'chik), both investigated in the late 1920s and early 1930s.²⁶ The cemetery provides a glimpse of mortuary practice. Covering an area of 300 m², it consists of 147 burials represented by a series of low-lying mounds grouped in clusters that possibly reflect some sort of familial structure. Males were usually placed on their right side and females on their left, but with no particular orientation, although north–south aligned inhumations are more prevalent in the later burials.

Many skeletons, especially those placed along an east–west axis, were thickly covered with red ochre. This practice is also attested at Bamut, in Chechnia, where the deceased was laid to rest with beads and a circular stone pendant, and provided with retouched stone blades. Red ochre is a globally important

²² Chernykh 1992: 35–53; 2011.

²³ Rassamakin 1999; Ivanova 2007: 10–13.

²⁴ Courcier 2014: 586.

²⁵ Ostašinskij and Čerlenok 2015.

²⁶ Kruglov and Podgaetskii 1941; Kruglov et al. 1941.

substance and highly symbolic. It is its ‘redness’, a visually stimulating colour, which is so appealing to humans. In many cultures extending back into the Palaeolithic, red ochre was often associated with blood, vigour, and life.²⁷ The vast majority of burials at Nal’chik had no grave goods. Graves 46, 54, 55, 83, 86, and 92 did include grave goods, and the dead wore jewellery, mostly necklaces, comprising perforated animal teeth (wild boar, deer wolf, bear, and other beasts), and beads crafted from sea-shell (the limpet *Helcion pectunculus*) and stone. One individual in Grave 86 had a copper wire laid across the skull, and two stone bangles, one on each wrist (Figure 4.3(1)). From another grave came a stylised (seated?) human figurine carved from a soft stone, possibly marl. It has a constricted neck and waist, and is perforated at the base so it could be worn as a pendant. Pottery, agricultural, and domestic items were not placed in tombs. A stone statuette of a woman with exaggerated waist and legs, found near a globular mace, provides evidence for artistic endeavours, but we do not know from which burial it derives.

Munchaev dates Nal’chik to the second half of the fourth millennium BC, based on loose connections with the Near East, but – taking into account today’s evidence – a higher date is more likely.²⁸ We only have a single radiocarbon date from Nal’chik, which might have been contaminated. Nevertheless, the reading tallies with similarities in material culture from Kamennomost Cave, Level 2, stratified beneath Maikop-like material, and Staronizhesteblievsk, which would place Nal’chik in the region of 5000–4500 BC.²⁹ Although the information from Nal’chik is insufficient to provide any sort of detailed picture of life and death in the northern Caucasus, the introduction of barrow burials, a mode of funerary construction that became popular centuries later, is important to note.

The Maikop Culture

DISTRIBUTION AND MAIN CHARACTERISTICS

Turning to the Maikop culture, a term presciently coined by Evgenii Krupnov at a time when only a few sites were known, we are confronted with a distinctive north Caucasian tradition currently represented by about 300 barrow burials (kurgans) and more than thirty settlements (Figure 4.2).³⁰ The complex came to the attention of antiquarian circles in 1897 when Nikolai Ivanovich Veselovskii excavated the Oshad kurgan, situated in the town of Maikop, still

²⁷ Sagona 1994a; Hovers et al. 2003.

²⁸ Munchaev 1982: 130.

²⁹ Korenevskii 2004: 65. The precise details of the date have not been published; Anthony 2007: 187.

³⁰ Krupnov 1957: 46–73. On current settlement and burial statistics, see the tables in Korenevskii 2004, and Korenevskii 2011: 9–12 on nomenclature.

the richest prehistoric find from the northern Caucasus.³¹ The site consisted of a large barrow, which rose almost 11 m above the plain and spread approximately 200 m across. Because a year later Veselovskii exposed two tombs at Novosvobodnaia (formerly known as Stanitsa Tsarskaia), today some scholars prefer the term Maikop–Novosvobodnaia community.³² Russian-led field projects and detailed studies, especially those published in the last couple of decades, have defined this intriguing tradition. Its broad characteristics are the adoption of barrow burials, ephemeral and shifting settlements, an abundance of metalwork, and widespread connections extending into the Near East and Europe.³³

From its heartland in the Kuban region, in the modern republic of Adygea, whose capital is Maikop, this complex expanded obliquely in a south-easterly direction along plains and foothills to occupy much of the region stretching from the Taman Peninsula, in the north-west, to the border of Dagestan (Figure 4.1).³⁴ Geographically, then, the Maikop culture comprised a relatively small area along the southern boundary of Western Eurasia. It was positioned between two worlds – the vast Eurasia steppe lands above it, and the Caucasus and Near Eastern lands to the south. Accordingly, the northern slope of the Caucasus Mountains was effectively the southern boundary of the Maikop culture. Communities favoured elevated positions on the foothills – terraces, rocky promontories, and natural spurs – overlooking a river valley, and on the whole they avoided the rugged highlands. In this respect, the Maikop settlement patterns differed markedly from those of the Kura–Araxes cultural tradition, which, as discussed later, sought the higher altitudes of the southern Caucasus. Maikop communities also rarely occupied caves, or rock shelters, such as the one at Meshoko.

Within the elongated Maikop culture province, the greatest concentration of sites occurs in the Krasnodar region, in the north-west, where the Kuban River system held the greatest attraction.³⁵ There we find, amongst others, the well-known large mounds of Maikop and Novosvobodnaia settlements. Moving eastward, Maikop sites are scattered in the southern areas of the Stavropol region, Kabardino–Balkaria, north Ossetia, and the lowlands of

³¹ Veselovskii 1897. This fourth-millennium material, often referred to as the ‘Maikop Treasure’, should not be confused with items of a later date (medieval, Roman, and Scythian) likewise found in the Adygea region and also grouped under the heading ‘Maikop Treasure’. These later objects are now housed in Philadelphia, Berlin, and New York (Leskov 2008).

³² Veselovskii 1901; Korenevskii 2004: 5; Rezepkin 2012.

³³ Early studies include Farmakovskii 1914; Rostovtzeff 1922: 17–34; Hančar 1937; Iessen 1935; 1950. Amongst the more current major Russian studies, see Munchaev 1975: 197–335; 1994b; Korenevskii 1993, 2004, 2011; Rezepkin 2000, 2012. See also Häusler 1994; Govedarica 2002; Lyonnet 2007b; Kohl 2007: 72–86; 2009; Ivanova 2013: 50–129.

³⁴ Munchaev 1994b: 166–7; Chernykh 2011: fig. 1.

³⁵ For the westernmost extension of the Maikop culture, see Trifonov 2014.

Chechnia and Ingushetia, where the frontier with the Kura–Araxes tradition can be drawn. The character of the sites, such as Lugovoe and Serzhen Yurt in this interface region, show mixed influences, bearing affinities with both the Maikop and Kura–Araxes culture provinces.

Dagestan is different again. Whereas some researchers place it within the Maikop culture province proper, the general consensus is that Dagestan represents a highly distinctive version of the Kura–Araxes tradition.³⁶ Another cultural boundary can be drawn within some areas of north Ossetia, Ingushetia, and Chechnia, where we have syncretistic elements combining both the Maikop and the steppe Pit Grave tradition.³⁷ This region, as far as the mouth of the Terek River, appears to constitute the southern boundary of the Pit Grave tradition. Beyond this point, and to judge by the hundreds of Pit Grave burials in the Kalmykia region, we can say that the eastern half of the northern Caucasus, embracing the north-west Caspian region, belonged to the vast steppe culture of Eurasia. Even so, the cultural boundary is not always sharp, leading some to infer a transitional zone settled by the bearers of the ‘Maikop Steppe Culture’.³⁸ Any precise comments on the distribution of barrows across the north Caucasian landscape must await the precise recording of sites using a Geographic Information System.

The striking and highly original character of the Maikop tradition is a combination of local ingenuity and skill, combined with a dynamism drawn from cultural influences reaching from central Asia, northern Iran, and Mesopotamia through the southern Caucasus and the northern Black Sea region to the Don River.³⁹ There are several paradoxes that reflect on the social and economic aspects of the Maikop communities. First, there is a contrast between the dazzling assemblages of its few wealthy burial mounds, on the one hand, and the rather utilitarian appearance of grave goods from the vast majority of burials and settlements on the other. Most funerary assemblages have none of the magnificence, or inventiveness in techniques of tomb construction, displayed by the wealthy barrows. Early Maikop burials are for the most part simple, rectangular earthen pits sealed beneath a shallow tumulus. Metallurgy has its own peculiarities. Despite the quantity of metalwork associated with the Maikop culture, we have very little evidence of extractive mining or metallurgical workshops. This no doubt has to do with the history of research, which has targeted burial mounds, providing a somewhat lopsided picture of Maikop communities.

³⁶ See Magomedov 1991a, 1991b for the view that Dagestan belongs to the Maikop; for the counterargument, see Munchaev 1994b: 167.

³⁷ Krupnov and Merpert 1963; Shilov 1984; Derzhavin and Tikhonov 1980.

³⁸ Chernykh 2011: 158.

³⁹ For external connections see, for example, Munchaev 1994b and Andreeva 1977 (Mesopotamia); Häusler 1994 (central Europe); Korenevskii 2004 (eastern Europe); Hansen 2009 (Susiana); Ivanova 2012 (central Asia and northern Iran).

The Chronology of the Maikop Culture

The lifespan of the Maikop tradition and its external connections are problems that have been discussed for about a century and show no signs of abating. The culture has been internally divided and subdivided into phases, and shifted up and down a timeline ladder several times in attempts to link it to neighbouring regions. Intertwined with this are the issues of origins and ethnic affiliations, especially of the later Novosvobodnaia stage. Until the recent and steady stream of radiocarbon dates began to appear, chronology had been largely a typological and art historical pursuit. An underlying and erroneous assumption in these early deliberations, although not always explicitly stated, was the linear view that sophisticated and impressive Maikop artefacts were manufactured *after* comparable foreign objects whose features were thought to be more embryonic. The underrepresentation of settlements in the research has complicated matters even further.

In the span of a millennium, ranging from ca. 4500 to 3000 BC, roughly covering the cultural periods of pre-Maikop and Maikop, the northern Caucasus came under the influence of two vastly different worlds: the north Pontic steppes, on the one hand, and the Near Eastern and central Asian lands on the other. Because no site has a sequence that covers this entire stretch of prehistory, the relative chronology of the region comprises a mosaic of disparate stratigraphies and imports.

A milestone in the study of the Maikop culture and north Caucasian archaeology generally is the work of A. A. Iessen. In dismissing the prevalent view of the 1940s that the large mounds of the Kuban were products of Scythian and Cimmerian cultures, he was the first to propose a twofold division into an Early Maikop (Maikop) and Late Maikop (Novosvobodnaia) phase, using the rich barrow assemblages.⁴⁰ After some refinement, Iessen placed the Maikop culture within the period 2500–2300 BC based on assumed external parallels.

In the decades that followed, art historical analysis and foreign commodities provided the basis for the view that the Maikop repertoire was a local response to strong Mesopotamian impulses. Lapis lazuli, carnelian, and turquoise beads were clearly imports, given that the sources of these semi-precious stones are in central Asia.⁴¹ On the other hand, the fine metalwork is generally attributed to local craftsmen and Near Eastern artistic inspiration. Some have emphasised the Early Dynastic III influences, especially for items such as the transverse axe from Maikop, and the links with Troy II and Alaca Höyük displayed by animal figurines attached to poles.⁴² For them, the early Maikop cannot be placed

⁴⁰ Iessen 1950; 1951. Amongst those who proposed an eighth–seventh-century BC date for the early Kuban kurgans, see Artamonov 1948: 176–7.

⁴¹ On the distribution of lapis lazuli and carnelian across the ancient Near East see, Casanova 2000.

⁴² Glumac and Anthony 1992. For a rather extreme, indeed bizarre, view on foreign impact, see Safronov (1989), who maintains that the Maikop culture was essentially the product

much earlier than 2600–2500 BC. Marina Andreeva, on the other hand, put forward a persuasive argument that pushed back Mesopotamian connections.⁴³ Her study drew attention to art historical details and ceramics. The less eye-catching objects, such the round-bodied clay vessels, were connected to the chaff-tempered containers of the Amuq E/F and Gawra XII–IX repertoires, even though the Maikop vessels have a gritty, hard, and quite well-levigated fabric.

Rauf Munchaev developed this idea further.⁴⁴ He compared a triangular-headed toggle-pin carved from bone (Figure 4.12(9)) from an early Maikop burial at Ust'-Dzheguta with a similarly shaped one from Arslantepe VIA. Likewise the cylinder and stamp seals from Krasnogvardeiskoe with an image of a deer and tree (Figure 4.4(5)) are associated with the Gawra horizon, including specific examples from Late Chalcolithic Değirmentepe in the Elazığ region of eastern Turkey.⁴⁵ But perhaps the most insightful cultural parallel Munchaev draws is the ritual practice of depositing objects beneath floors. Under the pebble pavement of the large Maikop burial were found microlithic sickle blades and an edge-ground axe. According to Munchaev, this custom of burying objects beneath floors is totally foreign to the northern Caucasus and reflects the symbolic adoption of a Mesopotamian ritual performed when public buildings were erected.⁴⁶

Whereas the foreign interplay between the early Maikop stage and the lands to the south is fairly clear, assessing the later Novosvobodnaia phase is a much more taxing and contentious task. Essentially, two primary views are current. One group maintains that Novosvobodnaia and its megalithic tomb structures are a local development, which quite possibly represents a hybrid expression combining a developed form of Maikop portable material culture with indigenous dolmen architecture that had started to emerge in the region (see Chapter 6), as well as in other areas such as the Crimea and the steppe lands.⁴⁷ For others, most notably Alexei Rezepkin, the primary impetus and indeed the origins of the Novosvobodnaia stage are to be sought in the steppe-land cultures north of the Black Sea.⁴⁸ For him, Novosvobodnaia, despite its parallels with the Maikop assemblage, is the easternmost expression of a province

of a community from Tell Hureyra, Syria, transplanted around 2400–2300 BC. Little better is the view of Miziev (1986), who argued that Maikop communities spoke a contrived Sumerian-Turkic language, thus extending the ancestry of contemporary north Caucasian Turkic peoples back into prehistory. For a critical review of these extreme migration theories, see Markovin 1990.

⁴³ Andreeva 1977.

⁴⁴ Munchaev 1994b: 169–70.

⁴⁵ Munchaev 1994b: 170.

⁴⁶ Munchaev 1991: 181. More recently Munchaev and Amirov 2014.

⁴⁷ Markovin 1990; Trifonov et al. 2012.

⁴⁸ Rezepkin 1989, 2012. Nikolayeva and Safronov appealed to an extreme view, now rejected, whereby migrations of peoples from central Europe established the late Maikop culture, as well as introducing the dolmen tradition. For a balanced central

that embraces the Funnel Beaker culture and, to a lesser extent, the Globular Amphora culture of central Europe. Although early discussions dealt mainly with polished black ceramics ornamented with incised designs, more recent discussions have included a wider range of artefacts, such as flaked stone tools, bone projectile points, stone sceptres, and bone toggles.⁴⁹

Rezepkin's arguments have been criticised for lending too much weight to non-characteristic aspects of the Maikop culture. At the core of this debate is the *scale* of European influence. Certain Novosvobodnaia items, such as the beaker form, do – to be sure – bring to mind comparable examples further west. Marena Szmyt has pointed out that there is increasing evidence for Balkanic and central European influence in the territory of the northern Black Sea in the fourth millennium BC.⁵⁰ Yet the cultural and, indeed, chronological relationship these regions had with the Novosvobodnaia is by no means clear, even though one study purports a genetic connection based on ancient DNA.⁵¹ Szmyt has correctly argued that more detailed and contextualised evidence, involving inter-disciplinary research, is needed to resolve this Novosvobodnaia question, rather than simply relying on typologies of select objects drawn from early fieldwork.

In the early 1990s, the first trickle of trustworthy radiocarbon readings was added to the fray. The samples were collected from the settlement at Galiugai, and then readings from Klady and barrows from north Ossetia followed.⁵² The growing number of radiocarbon readings, now more than 100 and mostly from the settlements at Galiugai and Svobodnoe, and from various barrows, places the beginning of Maikop around 3800 BC, or possibly even 4000 BC, which is much earlier than previously thought.⁵³ By 3000 BC, the Maikop culture had petered out. Analyses were carried out at the Oxford and Saint Petersburg laboratories, and they are not without problems, with the Saint Petersburg dates consistently earlier than those from Oxford. Nonetheless, both suites of readings place the Maikop Culture *before* the Late Uruk expansion and, in eastern European terms, *after* Tripolye B1–2 and Cucuteni A2–4, and AB.⁵⁴ This high chronology, then, sits uncomfortably with some of the early art historical affinities that have been drawn from north Syria and Mesopotamia.

European perspective, see Szmyt 2010: 167–88. For a critique of Rezepkin's classification, see Trifonov 2001: 28–31.

⁴⁹ Rezepkin 2000: 11–21.

⁵⁰ Szmyt 2010.

⁵¹ Nedoluzhko et al. 2014.

⁵² Rezepkin 2000: 22; Korenevskii 2004: table XI. See also Chernykh 2011 for an appraisal.

⁵³ Chernykh 2011: fig. 8; for a 4000 BC beginning see Korenevskii 2011: 21–40. Both use the 95.8% probability to calibrate the readings. Ivanova (2007: Table 2), on the other hand, uses 68.4% probability that effectively lowers the beginning of the sequence. For matters that affect the interpretation of radiocarbon dates, see Introduction.

⁵⁴ This is equivalent to Parzinger's (1993) Horizon 8 (b–c).

The internal developmental sequence of the Maikop is no less difficult a task to pin down. According to the conventional view, there are two inter-related components that follow each other chronologically: the earlier, Phase 1, is focused on the Maikop burial mounds and was relatively short-lived, while the second, Phase 2, is centred on the nearby Novosvobodnaia burials. Consequently, the so-called Maikop culture is simply subdivided into Phase 1 (Maikop) and Phase 2 (Novosvobodnaia), or early Maikop and late Maikop.⁵⁵

Sergi Korenevskii prefers a tripartite division based on radiocarbon dates and typology, especially changing ceramic styles from the settlements.⁵⁶ His early Maikop (4000–3700 BC) incorporates the Galiugai-Sereginskoe cluster that stretches across the foothills of the northern Caucasus, especially in the central and Kuban regions. Middle Maikop (3700–3300 BC) includes all his variants, whereas Late Maikop (3300–3000 BC) is characterised by the Novosvobodnaia group. Within this chronological framework Korenevskii places changing ceramic and metal styles.

Alexei Rezepkin has a different slant again on the evolution of the Maikop culture. Using his extensive excavations at Klady, he suggests a fourfold chronological division.⁵⁷ At the core of Rezepkin's developmental scheme is the gradual elaboration of tomb architecture, developing from simple earthen pits through larger ones that were lined with wooden planks or pebbles to stone cist tombs, and finally monumental dolmen-like structures (Chapter 6). Rezepkin's four chronological horizons (Klady I–IV) also chart the rise and fall in popularity of artefact types, with Klady III displaying the greatest variety of grave types and funerary goods.

Villages and Households

A very poor record of known settlements is the counterweight to the many burial discoveries. We owe much to early researchers such as Aleksandre Formozov and a new generation of archaeologists who dedicated their fieldwork to the study of villages.⁵⁸ Most settlements are located in the north-west Caucasus within the drainage basin of the Kuban River, and in the Karbardino-Balkaria and Piatigorsk regions. Amongst the most important are Ust'-Dzhegutinskii, Dolinskoe, Prekupska, Sereginskoe, and Galiugai I.⁵⁹ Villages are ephemeral

⁵⁵ Munchaev 1994b: 167, 178–89, followed by Lyonnet 2007 and Kohl 2007.

⁵⁶ Korenevskii 2004; 2011: 12–14. Korenevskii also distinguishes eleven types of Maikop burials.

⁵⁷ Rezepkin 2000: 3–4; 2012.

⁵⁸ Formozov 1965.

⁵⁹ Dolniski (Kruglov and Podgaetskii 1941: 147–212); Ust'-Dzhegutinskii (Korenevskii 2004; Rezepkin 2013); Galiugai I (Korenevskii 1995). Formozov 1965; Solov'ev 1958. For a list of radiocarbon dates for the pre-Maikop and Maikop sites, see Ivanova 2007: tables 1–3.

and small, averaging about 1–2 ha, and often clustered in groups. This has been determined from a handful of excavated sites, as settlement size is virtually impossible to determine from the scatter of surface finds. Settlements spread horizontally, without the vertical accumulation of cultural debris that leads to the formation of mounds typical in parts of the southern Caucasus and the Near East. The site of Galiugai I, for instance, extends about 600 m across a ridge, though its single building deposit is relatively shallow.⁶⁰ Most Maikop settlements have a cultural deposit of little more than 10 cm, often well burnt.⁶¹ House plans are articulated not through foundations or postholes, but rather through the scatter and discard patterns of finds, especially ceramics, the positions of pits and hearths, and fragments of baked clay (Russian *turluk*) used to daub a flimsy structure. This suggests that Maikop villages were not intensively occupied and possibly reflects seasonal mobility.⁶²

Maikop culture had none of the monumental buildings, shrines, or public structures that so typify the coeval centralised complex societies in the Near East. Although plans of structures are not always clear, villages comprised a complex of freestanding, rectangular, circular, or oval domestic dwellings built with wattle-and-daub walls and furnished with a fixed hearth embedded in a beaten earthen floor. They generally measured between 9 and 25 m², with some that are larger. Settlements were not fortified, although some believe that the manufacture of swords reflects a militaristic society.⁶³

Galiugai I has one of the clearest settlement plans. The contours of three houses were delineated, allowing some interpretation of activity areas within the domestic domain. They conformed to an approximately circular or oval plan and varied in size: House 1–38 m²; House 2–72 m² (Figure 4.4(1)); House 3–21 m². Impressions on baked clay daub from House 3 suggest that poles measuring 8–10 cm across were used in the construction. The floors of Houses 1 and 2 were littered with pottery sherds, fragments of hand grinders, and stone tools (flint sickles, projectile points, and debitage). The three houses at Galiugai I produced some 8,000 pottery sherds, as well as a number of substantially complete vessels. Bone tools, by contrast, were scarce. Other items included a metal hoe and knife, and spindle whorls. Hearths played an important role in Maikop houses. Scattered around the floors and around pits were baked hearth hobs (or portable andirons).⁶⁴ With a domed or convex top, these hobs have a broad base and are perforated in the centre for easy manoeuvrability when hot

⁶⁰ Korenevskii 1995.

⁶¹ Korenevskii 1993: 16. Cf. Munchaev (1994b: 174), who estimates that Maikop settlement deposits can be deeper, averaging between 20 and 50 cm.

⁶² Munchaev 1994b: 176; Korenevskii 2004: 12–14.

⁶³ Korenevskii 2011; cf. Formozov and Chernykh 1964: 108.

⁶⁴ These items are sometimes misleadingly referred to as ‘plano-convex bricks’, Korenevskii 2004: 13.

(Figure 4.4(1)). Their general shape and purpose foreshadow similar furnishings in the earliest Kura-Araxes houses, in the southern Caucasus.

More or less at the centre of House 2 is the largest of five hearths; another was located near it, about a metre away, whereas three further hearths were positioned around the perimeter of the dwelling. Also placed along the wall of the house were grinding stones, pits, and large ceramic vessels. Pits were common features in Maikop settlements, especially at Galiugai I and Dolinskoe. Circular in shape and averaging about 50 cm in diameter and depth, they were often discovered filled with a mix of animal bones, fragments of ground stone objects, and other debris that displayed no structured deposition. Korenevskii has reported that no animal bones were found on the floor of houses generally, and suggests that either the residents were conscious of hygiene and regularly disposed of their waste in pits, or meals were eaten outdoors. Looking at the discard pattern of finds within the House 2, it is clear that the work area was located in the centre of the building, while the uncluttered living areas were located near the entrance and at the back of the house. Much food preparation and other activities were clearly carried out indoors, but a scatter of sherds and a few in situ vessels outside the entrance of the house indicates that the work domain extended beyond the interior.

Houses could also be rectangular in plan – at Iasenova Poliana they measured 12 x 4 m – and were built using a post framework, which supported wattle-and-daub walls. A row of posts running down the centre of the house held up the roof. At Dolinskoe, excavators reported beaten earthen floors and walls that were several posts thick. But not all wattle-and-daub buildings had a post framework. Some, such as those at Chishko, for instance, had an in-fill of reed and twigs.⁶⁵ At Sereginskoe, the largest structure approached 7 m in diameter; its fixtures included two clay rectangular ovens that were probably domed.⁶⁶ Nearby was a sub-rectangular structure, about 4.5 m in length, also equipped with a hearth, and small freestanding storage facilities. Despite the wealth of Maikop metalwork, no traces of workshops have been recovered from the settlements, suggesting that these metal working activities were carried out away from the residential quarters.

We know very little about farming practices during the Maikop period. With no detailed archaeobotanical studies, we must rely on circumstantial evidence – tools and storage facilities. Flint sickle blades and ground stone objects both bear the characteristic sheen that comes with use, but determining what cereals were cultivated is difficult.⁶⁷ A reasonable guess is broomcorn millet (*Panicum miliaceum*), a preferred crop across ancient Eurasia, followed perhaps by wheat.⁶⁸ Information on stock-breeding is better, but still insufficient for a

⁶⁵ Riond 2007.

⁶⁶ Munchaev 1994b: 177.

⁶⁷ Hamon 2007.

⁶⁸ Hunt et al. 2011.

full understanding across the northern Caucasus. Nonetheless, it seems clear that these fourth-millennium villagers, whether in the foothills or the lowlands, preferred cattle herding to raising sheep and goats. At Novosvobodnaia, which has the largest sample of animal bones ($n=2351$), and at Pkhaguape, cattle are common.⁶⁹ Pig bones are almost entirely absent, which is usually taken to mean a community was fully sedentary. Accordingly, transhumance, or some form of economic mobility, is seen as a viable option for these prehistoric farmers, given ethnohistorical evidence from the region. The ‘flimsy’ wattle-and-daub Maikop architecture has been put forward as supporting evidence for this view.⁷⁰ But we need to be cautious when using circumstantial evidence such as architecture. Ultimately, unequivocal evidence of transhumance would require sets of age, sex, and mortality ratios of caprines to sustain a convincing case. A similar argument for mobility has been mounted for the southern Caucasus and the Kura-Araxes cultural tradition, which recent evidence suggests was probably less mobile than we once assumed.⁷¹

Barrows and Burials

Looking at the cultural expressions of the Maikop culture as a whole, their society appears to have been sharply divided into two levels, conspicuously reflected by the scale of their burials and the furnishings they contained. On one side was the ruling elite whose large barrows replete with riches displayed their power and wealth. Metalsmiths and artisans clearly catered for the tastes and needs of this group, who were buried with jewellery of precious metals and stones, weapons, and ceremonial items such as metal cauldrons and two-pronged tools about the size of a pitchfork. Three burials with luxury provisions – the Oshdad burial at Maikop, and two at Novosvobodnaia – located in the western half of the culture province, reflect this social bracket. Then there was the rest of Maikop society, which, for the most part, was buried with scant possessions, usually a few items of pottery. Yet the Maikop social spectrum shared a similar mortuary custom. They buried their dead in a tomb that was almost invariably concealed under a barrow of earth (a kurgan). The re-use of a barrow was not uncommon and some contained as many as half a dozen burials. Flat graves, usually stone cist tombs, have also been found, mainly in settlements, but they are not as common.

Burials are found across the entire Maikop culture province, but are particularly concentrated in the Kabardino-Balkaria and in Adygea, in the Krasnodar region. Whether barrow burials represent an intrusive element in the northern

⁶⁹ Korenevskii 2004; Spasovskii 2008.

⁷⁰ Ivanova 2013: 70.

⁷¹ Piro 2009. The literature on economic mobility and nomadism is large, see Potts 2014 for an overview and references.

Caucasus, possibly derived from the north Pontic and steppe area, or even further afield, has yet to be resolved. One view sees them as a local north Caucasian feature with roots extending into the fifth millennium BC, whereas another study, based on recent findings from Azerbaijan, argues that the use of barrow burials originated in the southern Caucasus, specifically with the Leilatepe culture, from where it spread north.⁷² Present evidence is too imprecise to argue conclusively one way or the other, and in any case, what is far more important is the reason behind the popularity of barrow burials, the variability in their modes of construction, and their associated grave goods.

We now have an increasing number of Chalcolithic barrow burials from the southern Caucasus (Soyuq Bulaq, Seyidli, and Kavtiskhevi) to which we can add Sé Girdan from north-west Iran.⁷³ Although these monuments undeniably belong to a similar mode of burial practice, they do display diversity. Najaf Museibli is cautious about making a direct link between Maikop and the Soyuq Bulaq barrows.⁷⁴ He argues that the traits which unite the northern and southern barrow burials are the mounds of earth, the orientation of the grave chambers (north-west to south-east), and certain grave goods, such as ceramics, that display comparable forms. But even here there are differences, with Maikop pottery showing none of the heavy chaff-tempering found further south. Other more notable differences include mud-brick burial chambers, a Mesopotamian trait, possibly reflecting an idealised house, that was adopted by Azerbaijani communities, but not by groups in the northern Caucasus, where pit burials are the norm. Then we have the size of the barrows, which tend to be larger in the northern Caucasus.

Most studies have interpreted the southern barrow burials as offshoots from the Maikop region, but Marya Ivanova has argued more recently that influences during the first half of the fourth millennium BC also travelled the other way.⁷⁵ It was central Asia and northern Iran, according to Ivanova, that supplied the Caucasus not only with exotic commodities such as turquoise, silver, gold, carnelian, lapis lazuli, and cotton, but also the concept of burying the dead in barrows. It would be prudent, however, to steer away from any unilinear approach. Instead, it makes more sense to view the Caucasus as part of a wide network of cultural interaction. It is clear that communities of the Maikop culture were receptive to external cultural trends, and, in turn, influenced contiguous lands with their own innovations. This exchange of ideas and commodities was neither homogenous nor uniform in scale. Whereas there is no

⁷² Korenevskii 2004, 2012; for the Azerbaijani evidence, see Museibli 2014a.

⁷³ Muscarella (2003) re-dated Sé Girdan to the fourth millennium following the suggestions of Russian archaeologists Rezepkin and Trifonov, who first noted comparable elements with Maikop burials. See also Makharadze 2007 (Kavtiskhevi); Lyonnet et al. 2008 and Museibli 2014a (Soyuq Bulaq).

⁷⁴ Museibli 2014a: 69.

⁷⁵ Ivanova's views are argued in 2012: 19 and 2013.

question that certain commodities were imported from the eastern lands into the Caucasus, the sheer quantity of barrow burials in the Caucasus makes it unlikely that this funerary practice also emanated from the east. We seem, then, to have a conflation of cultural traditions – burial practices from the Caucasus and northern Mesopotamia, and funerary assemblages that reflect a wide range of exotic contacts.

Although the size of Maikop mounds and their shapes do not appear to be chronological markers, there is agreement that burial architecture generally became more elaborate with the passing of time. Most barrows today appear as small bumps on an undulating landscape. Excavated burial mounds range from as low as a metre in height to imposing structures that rise 12 m above the valley floor.⁷⁶ The smaller mounds are comparable in size to those found in the steppes of Eastern Europe, but the larger mounds, with a height of 5 m or more, are a Maikop characteristic. The largest barrows, as yet unexcavated, are situated near the village of Urvan in the Kabardino–Balkaria region, where they tower between 17 and 24 m above the ground. Although it is not always possible to discern the way a mound was constructed, owing to the lack of detail in published reports, there is enough evidence to show that barrows were erected in a structured manner.

Mounds are mostly circular in plan or – in rare cases – oval (for example, Barrow 3 at Brut), often with a flat top, which has been interpreted as a cultic platform of sorts. The spiral path that winds around Zamankul Barrow 2 to the top is certainly an intentional feature and not simply the result of weathering.⁷⁷ Other features are suggestive of symbolism. A row or two of river pebbles, purposely chosen over more accessible field-stones, delineated the edge of a barrow (Figure 4.5).⁷⁸ The outermost stone ring probably formed the barrow embankment and was once visible. Much energy was invested in the construction of the barrow. A stone girdle delineated its circumference. Amongst the widest is the one at Iastrebov, which was surrounded by a stone circle with a diameter of no less than 27 m.⁷⁹ This barrow is also rather unusual in its internal structure, in that it had two tumuli – a smaller one nestled within the outer casing. Once completed, it rose 2.3 m above the ground. Although the exact meaning of these stone rings eludes us, it is possible, as Korenevskii has suggested, that they represent a liminal boundary associated with water.⁸⁰ Unusual in this sense is the crescent-shaped stone feature found beneath Barrow 1 at

⁷⁶ Korenevskii (2010: n. 11) categorised them into three groups: small barrows no more than 1 m high; medium mounds that are between 1 and 3 m high; and large mounds exceeding 3 m.

⁷⁷ Korenevskii and Rostunov 2004.

⁷⁸ In later barrows of the Bronze Age, especially in Armenia, stone rings are a feature of ‘cromlechs’.

⁷⁹ Gei 2008: 179.

⁸⁰ Korenevskii 2010: 69.

Kishpek (Figure 4.5(2)).⁸¹ Intentional layering might also have symbolic meaning. The burial chamber of Bamut Barrow 15 was concealed by a mound of stones, which, in turn, was covered with earth. Even more intriguing is the stratigraphy of certain mounds, comprising a deposit of fertile black soil superimposed by a layer of yellow clay.

Turning to the Maikop–Novosvobodnaia horizon, the most complex mound in the Kuban region is Klady No. 11, a large flat-topped mound measuring 148 m in diameter and rising to a height of 12 m (Figure 4.6(1)). Some sixty graves were incorporated within the barrow as it expanded over time.⁸² Rezepkin identified eight barrows (Kurgans 11 A–H) that were eventually sealed under a large barrow of earth. Most graves belonged to the Maikop–Novosvobodnaia horizon; the exception was Tomb 54. The reasons behind the community's desire to seal under one 'roof' a number of smaller barrows situated within proximity to each other can only be guessed at, though the practice speaks strongly for the notion of connection to place – perhaps a large cemetery of related family members making a statement on the landscape. Another barrow with multiple burials is Kishpek, where two cromlechs surround seven graves (Figure 4.5(5)).⁸³

Looking at the tomb chambers, four broad types are represented in the Maikop–Novosvobodnaia horizon:⁸⁴

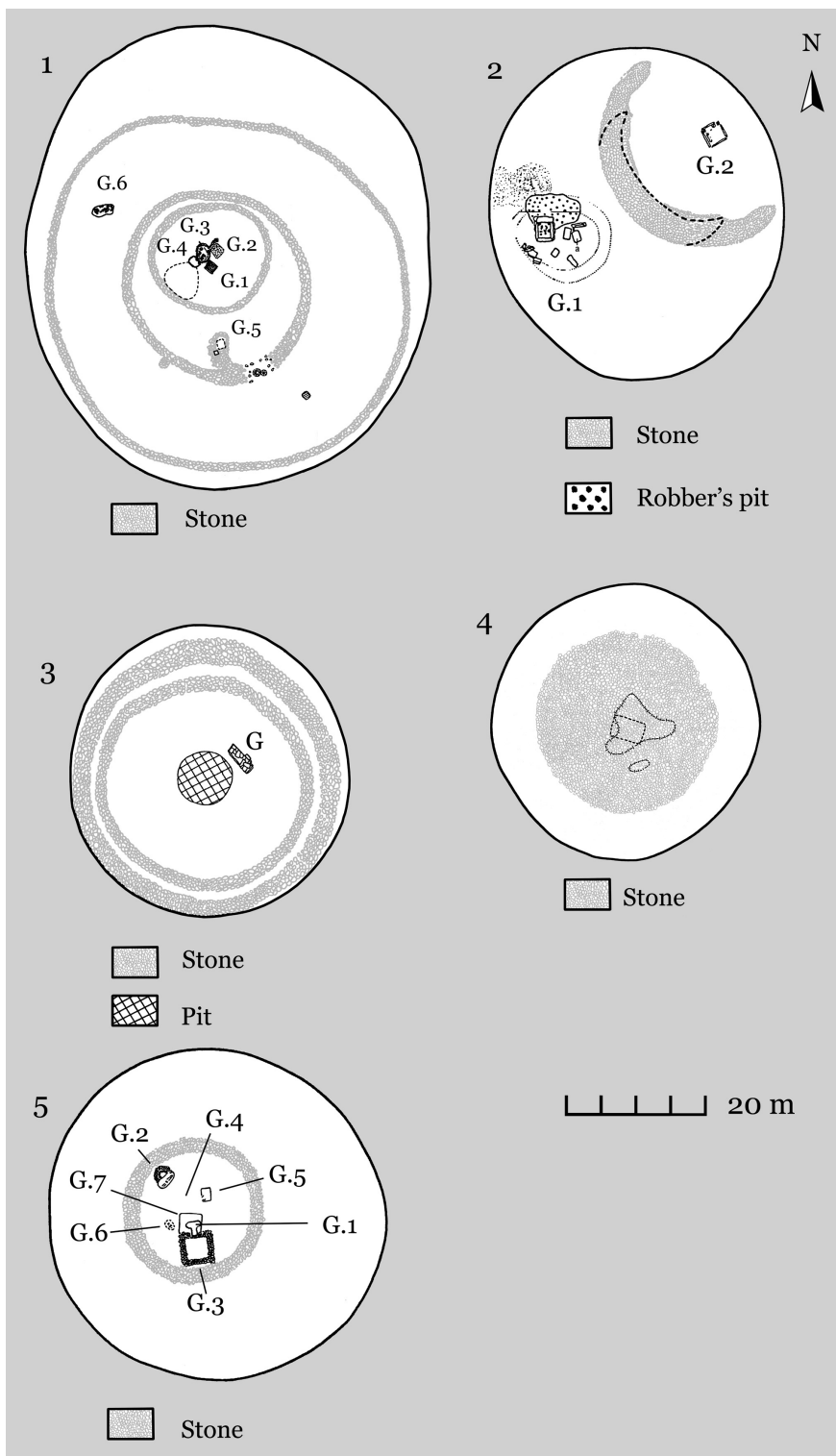
1. Rectangular, earthen pit within rounded corners, measuring no more than 1.9 m in length. The pit was edged around the base with stones and back-filled with either stones or clay, and sealed with a roof of timber logs (Figure 4.7(1)). The deceased was placed in a flexed position, almost invariably on their right side, with head pointing south. Their hands were usually in front of their faces, but occasionally their right hand was stretched along their body. Red ochre was ceremonially sprinkled on the deceased, a practice that was adhered to in all types of burials and throughout the culture's existence. Children aged between one and seven years were commonly buried in these earthen pits. The late version of this burial type is larger in size, measuring up to 2.45 m, and is often paved with pebbles. In some of these graves, the walls are faced with stones, which, in turn, are lined with up to three horizontal rows of timber.
2. Burial on the ground surface. The tomb chamber was rectangular, or circular, and built of wooden planks or field-stones, or a combination of both. Pebbles or sand line the chamber floor.

⁸¹ Korenevskii 2004: fig. 25.

⁸² The plan of this Klady Barrow 11, reproduced in Rezepkin 2000: fig. 2 and 2012: fig. 10, is somewhat difficult to follow because six tomb numbers (4, 6, 7, 9, 10, and 18) are repeated twice. A few tomb locations have no numbers, whereas two others have been misprinted (Tomb 15 is noted as Tomb 1, and Tomb 32 is printed as 33).

⁸³ Miziev 1984.

⁸⁴ Rezepkin (2012: 55–7, fig. 120) and Korenevskii (2004: 16) classify these tombs somewhat differently, but agree on the types. See also Munchaev 1975; 1994b: 178–88.



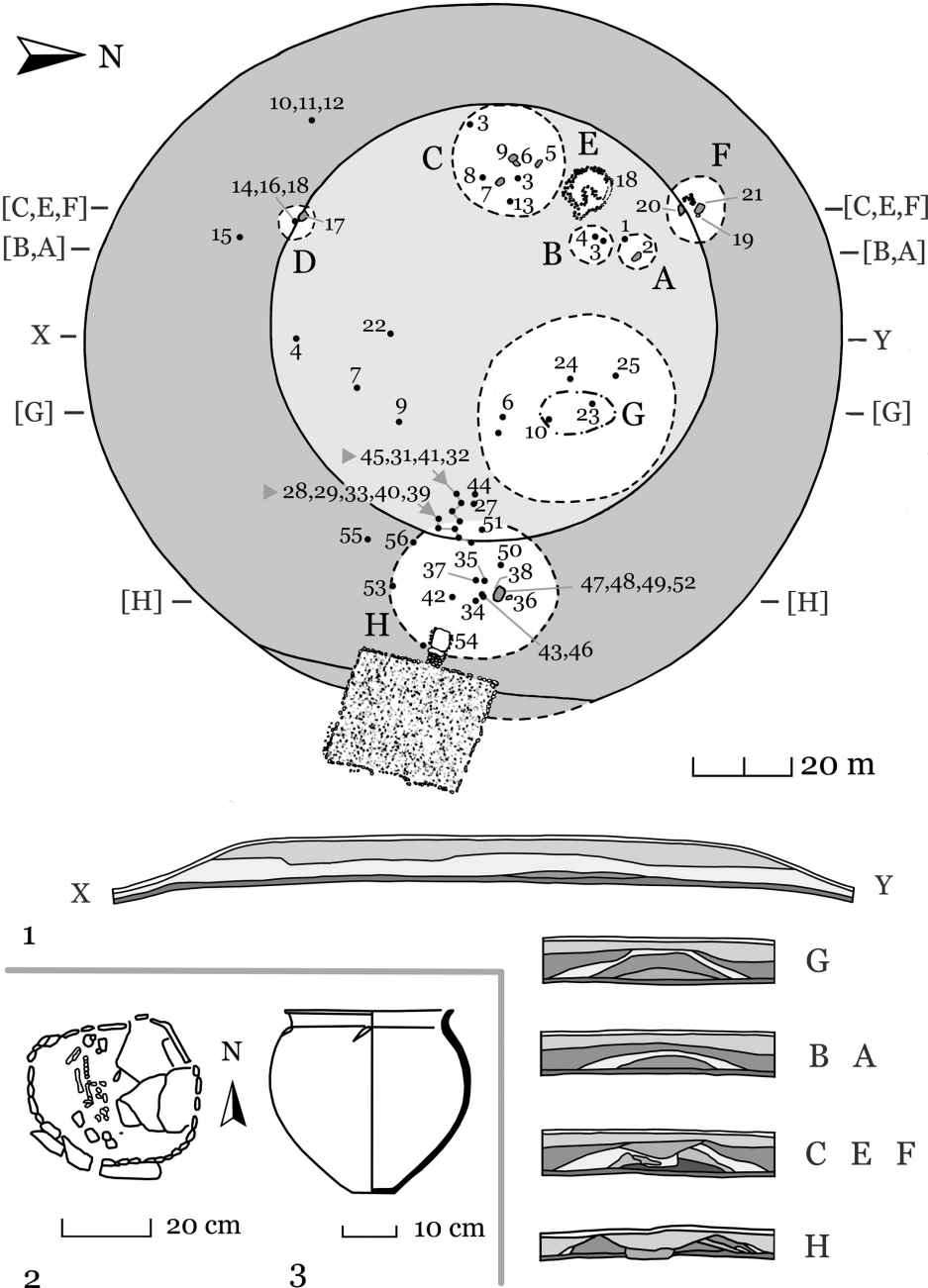


Figure 4.6. Klady: (1) Barrow 11, showing its various constructional features and the location of most of its graves; (2–3) Barrow 11, Grave 25 (after Rezepkin 2000, 2012).

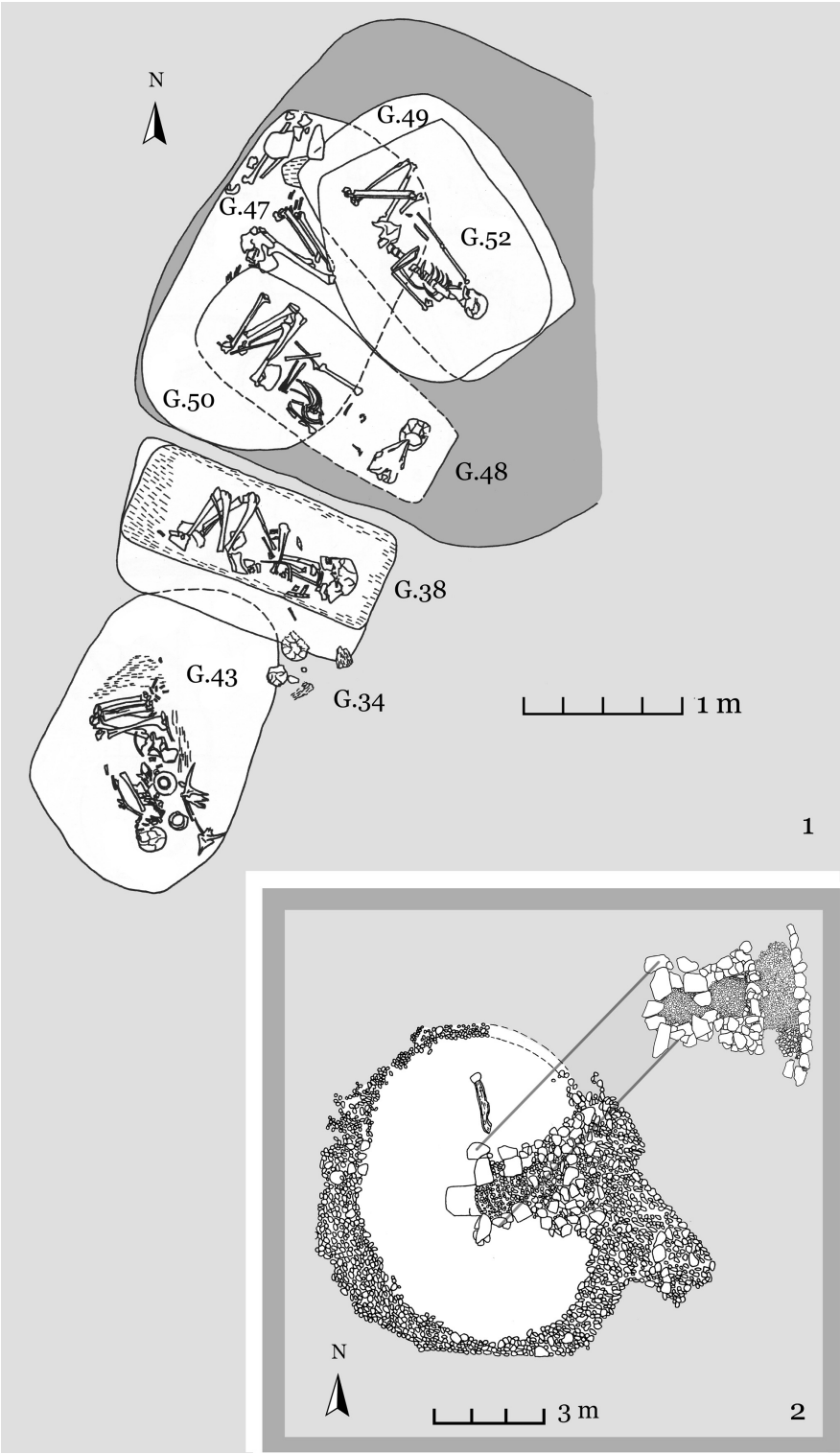


Figure 4.7. Klady: (1) Barrow II, earthen pit graves 34, 38, 43, 47–50, 52; (2) Barrow II, Grave 8 (after Rezepkin 2000).

3. This type belongs to the megalithic tradition, which is discussed further in Chapter 6. Tombs are one- or two-chambered, built above ground with slabs of stone (Figures 4.8–4.10). In plan, they conform to a rectangle with access provided by a porthole in the front transverse slab.⁸⁵ Ornamentation is rare. Klady Barrow 28, Grave 1, has walls with designs painted in ochre (Figure 4.8(5–7)), while a double spiral pattern has been incised on a block of Klady Barrow 39, Grave 2 (Figure 4.9(6)). Sizes vary but Kishpek 2, Burial 1/1 is a ‘typical’ example. Its chamber measures 2.9 x 2.1 m and its roof is 90 cm above the ground. The Nal’chik tomb, constructed from more than thirty hewn slabs set vertically, is larger: 3.13 x 2.34 m and 1.4–1.9 m high. Despite the size of these tombs and the clear investment of labour, according to Rezepkin, ‘the position of the skeletons, their orientation, and the presence of ochre do not differ from what is seen in the other burials’.⁸⁶
4. Stone cist tombs built with slabs set into a pit are no different in structure to Type 3. The main difference is that they do not have a porthole entrance; access was through the roof. This type is the least common of all.

We need not discuss those instances that do not conform to these basic plans,⁸⁷ but mention should be made of a child burial in a jar (Figure 4.6(2–3)) from Klady Barrow 11 G, Burial 25.⁸⁸ This single example from the northern Caucasus is potentially quite important, given its adoption in the Chaff-Faced Ware horizon of the Chalcolithic southern Caucasus, which, in turn, appears to have been influenced by burial practices from north-eastern Mesopotamia. These connections are discussed later.

The Inequality of Maikop Society

The princely burials at Maikop, excavated by Nikolai Ivanovich Veselovskii in 1897, still constitute the richest prehistoric finds from the northern Caucasus. The site consisted of a large kurgan, which rose nearly 11 m above the plain and had a diameter of approximately 200 m. Concealed within the mound were two tombs of different dates, one impoverished, the other large and quite spectacular. The large tomb was sunk ca. 1.5 m into the ground, and measured ca. 5.5 m long, and ca. 3.75 m wide. It was placed at the centre of a circular stone enclosure built of field-stones. A wooden chamber, paved with pebbles and roofed with wooden beams supported by corner posts set in holes 26 cm in diameter, had been built inside the pit. Wooden partitions divided the interior

⁸⁵ Markovin (1978: 66) first raised the notion of the sacred with respect to portholes.

⁸⁶ Rezepkin 2012: 119.

⁸⁷ See Korenevskii 2004: 19–20 for a discussion.

⁸⁸ Rezepkin 2000: fig. 12: 12, 13.

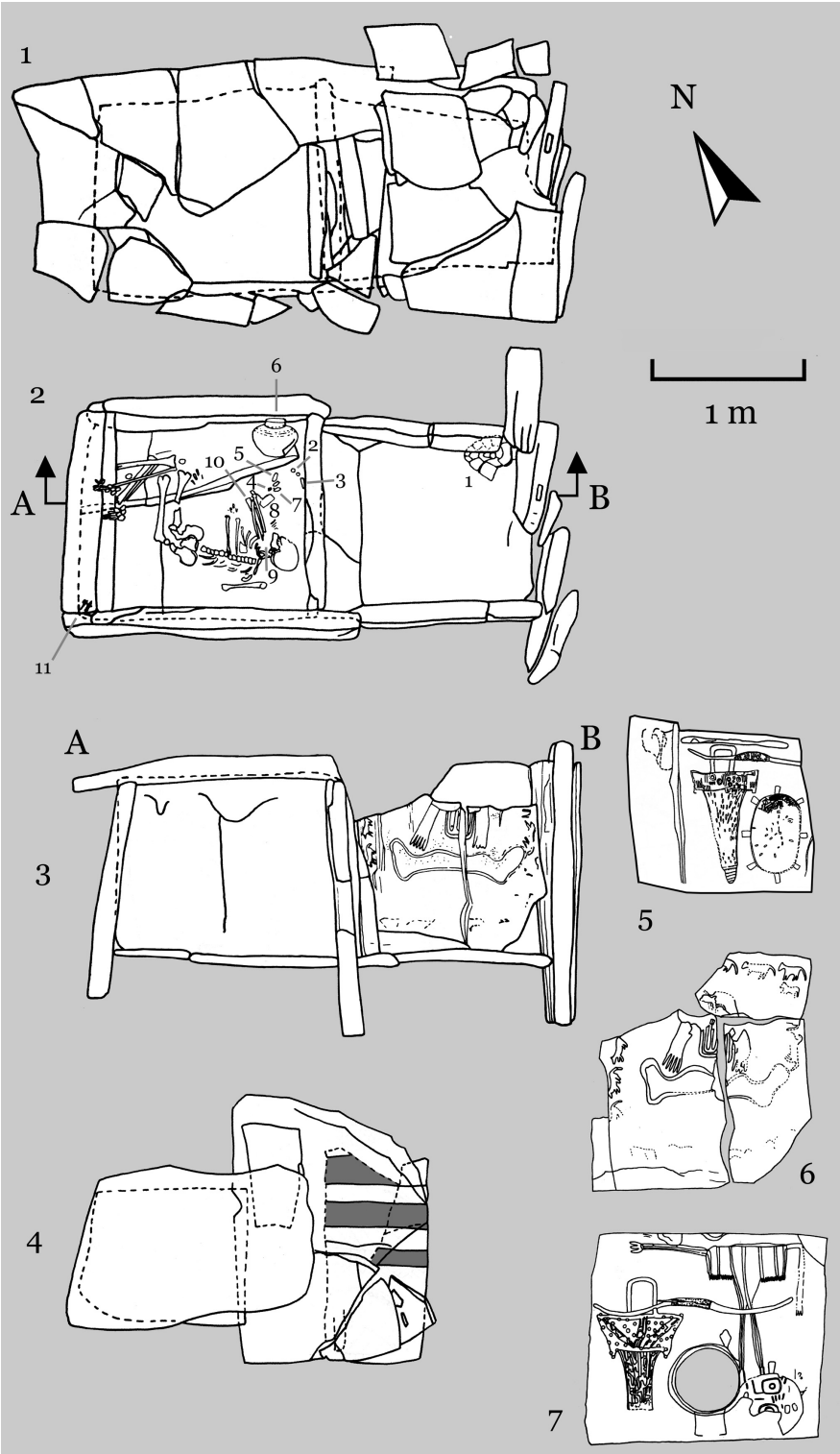


Figure 4.8. Klady Barrow 28, Grave 1, showing top and side views and painted stones (after Rezepkin 2000).

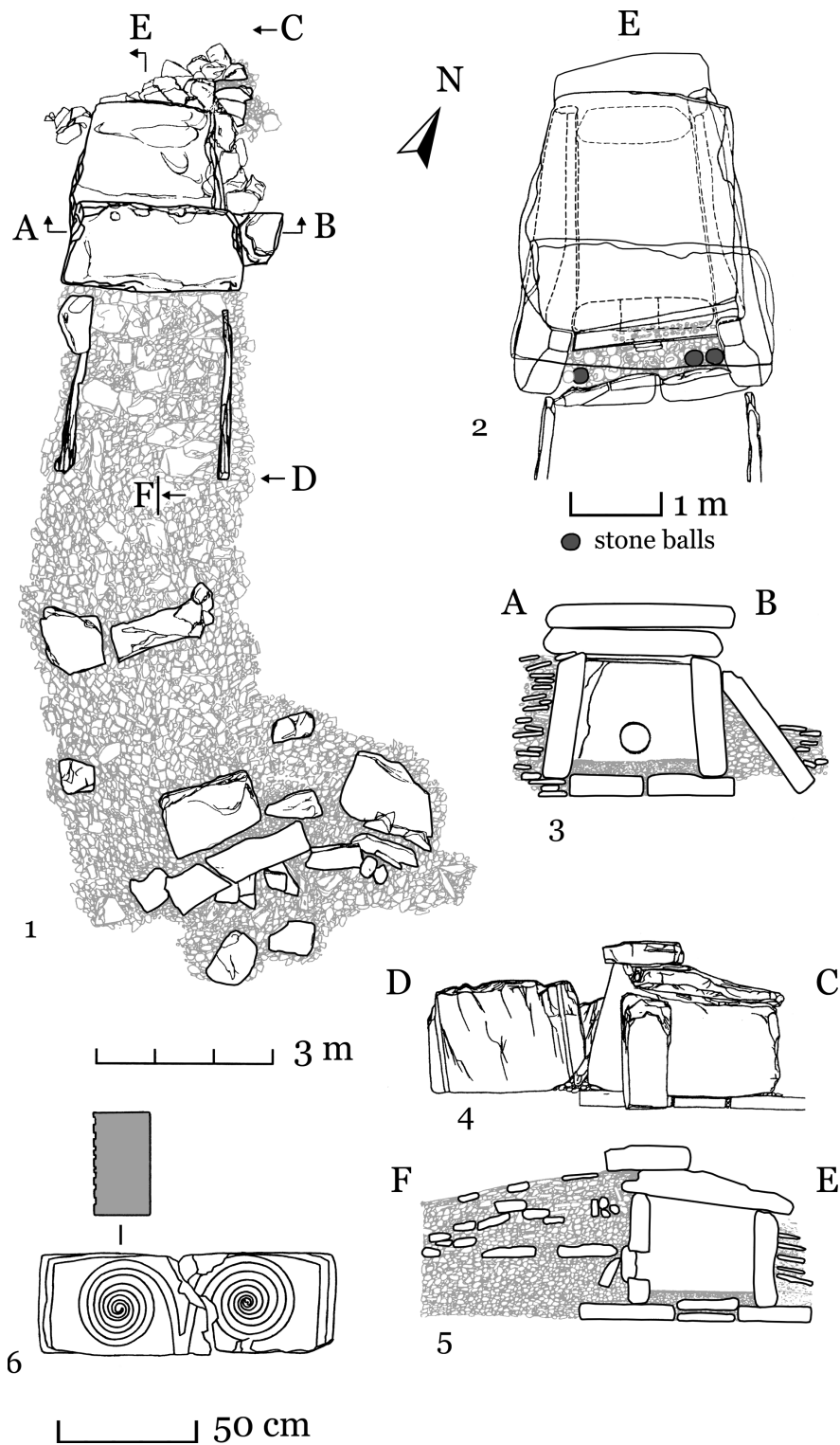


Figure 4.9. Klady Barrow 39, Tomb 2, showing top and side views (after Rezepkin 2000).

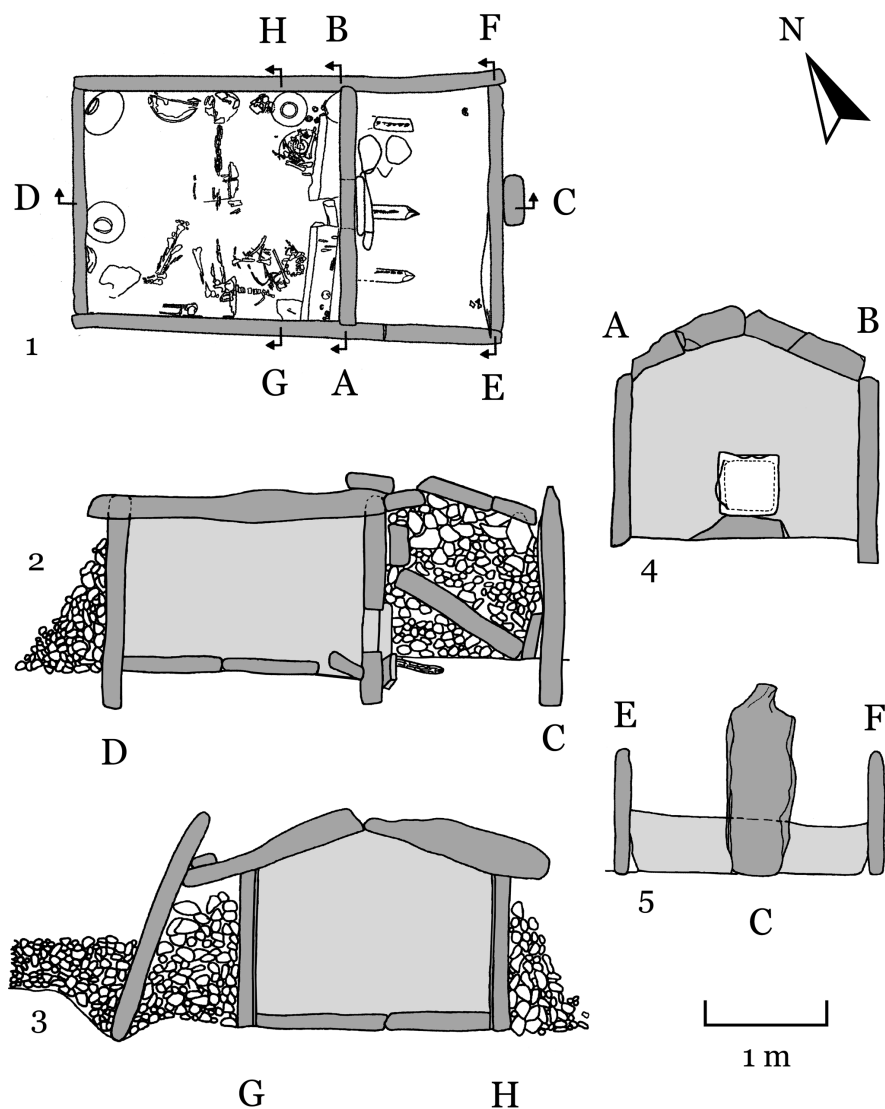


Figure 4.10. Klady Barrow 30, Tomb 1, showing top and side views (after Rezepkin 2000).

of the chamber into three compartments, with the southern room occupying half of the tomb area (Figure 4.11(1)). Each space contained an individual burial – the largest compartment had a male skeleton and a female occupied one of the smaller rooms; another male was placed in the third compartment.⁸⁹ No anthropological analysis has ever been carried out on these human remains. The individuals were placed on their backs, flexed at the knees, with

⁸⁹ Based on a study of notes and other archival material left by Veselovskii, Yuri Piotrovskii has suggested an alternative arrangement for the skeletal remains, whereby they were aligned diagonally in the compartments. Presented at a lecture in Saint Petersburg, Oct. 2015. See also Piotrovskii 1994, 1998.

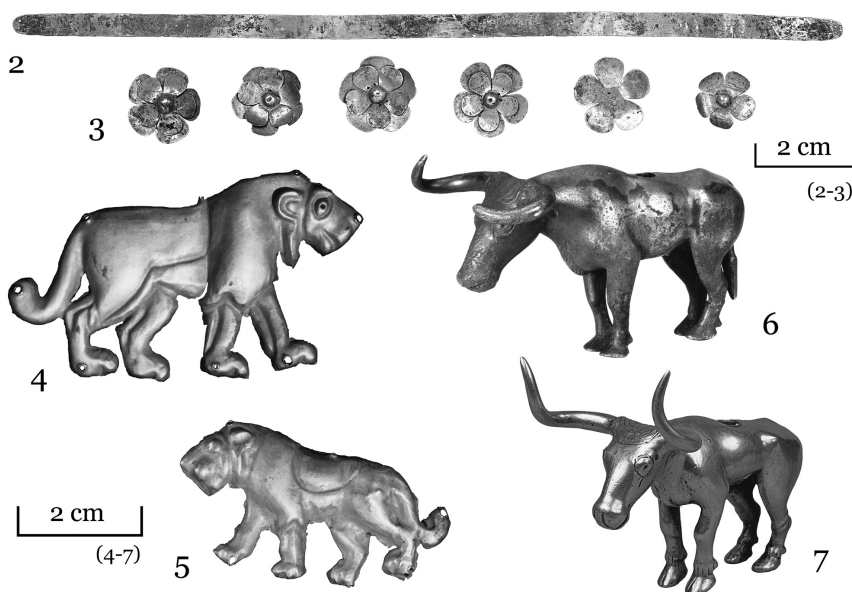
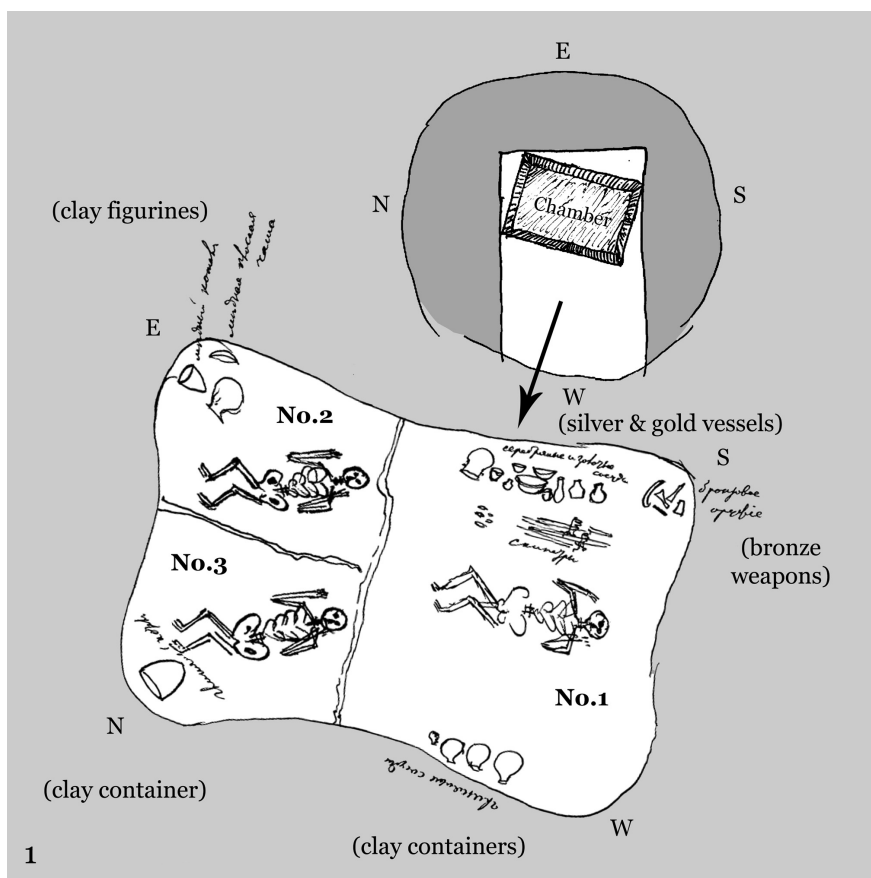


Figure 4.II. Maikop princely barrow: (1) Original plan of the largest tomb (after Veselovskii 1897 [1997]); (2) gold diadem; (3) gold rosettes; (4–5) gold lion appliques; (6) silver and (7) gold bull figurines (courtesy The State Hermitage Museum, St. Petersburg, © Vladimir Terebenin).

hands raised to their faces, a position that was rarely used in Maikop burials.⁹⁰ They were thickly covered with a red substance, often reported as ochre.⁹¹ Whatever the substance (cinnabar was used at Novosvobodnaia), it must have been the notion of redness that attracted the ancients to it.⁹²

The grave assemblage was sumptuous, especially in the southern compartment, which was the resting place of the ‘chieftain’. No less than two kilograms of gold, half of which were beads, and three kilograms of silver were deposited in the tomb, making it exceedingly rich for its time.⁹³ The chieftain was covered with 135 gold appliqués in the form of rosettes, lions, and bulls, perhaps once sewn to the man’s garments (Figure 4.11(3–5)). Strewn around were other jewellery items – golden earrings, six rings, and several thousand beads of gold, silver, turquoise, and carnelian (Figure 4.12(5–8)).⁹⁴ A narrow gold diadem decorated with a row of rosettes that may have held cloth headgear in place was found beneath the skull (Figure 4.11(2–3)). Underneath the skeleton were six silver poles, four of which were capped in gold, possibly once attached to a cloth canopy that draped the body.⁹⁵ Four of the poles, about a metre in length, passed through small figurines of bulls cast in the same metals as the rod ends: two in gold and two in silver (Figure 4.11(6–7)). Each figurine was positioned at the lower end of a rod, whereas the other end was perforated. The poles may also have been used simply as ceremonial objects in the funerary procession.⁹⁶ Amongst the offerings were sixteen vessels of gold, silver, and stone (Figures 4.13(2–3) and 4.14(2–3)). Towards the back of the tomb, the family of the deceased deposited copper and bronze tools and weapons, and containers of chaff-tempered pottery that sometimes (the round-bodied pot, for instance) resemble their metal counterparts. There is one other noteworthy feature. Beneath the pebble floor were seventeen microlithic lunate sickle blades and an edge-ground axe. As mentioned earlier, the occurrence of agricultural tools in such a rich tomb caught the attention of Munchaev, who linked it to a Mesopotamian custom.⁹⁷ The two smaller

⁹⁰ For other instances of supine burials, see Korenevskii 2004: 20–1.

⁹¹ Ivanova (2012: 4–5, n.18) attributes it to red lead, but at a recent conference held in Saint Petersburg (Oct. 2015), it was reported that the substance remains unidentified. Researchers at the Hermitage are reluctant to perform analyses to avoid the risk of damaging the objects.

⁹² For an overview of the colour red, see Sagona 1994b and Hovers et al. 2003; and Sagona and Zimansky 2009: 107–9 for use of red in Neolithic Anatolia.

⁹³ Yuri Piotrovsky, lecture Saint Petersburg, Oct. 2015. For a discussion of gold and silver in the Maikop culture, see Hansen 2014.

⁹⁴ Veselovskii 1897: 48 (list of items); 1900a. There were 1,272 carnelian beads and 60 turquoise beads alone, Munchaev 1994b: 196.

⁹⁵ Veselovskii 1900a: 4f, figs 11–14. Upon inspection of these rod fragments, Ivanova (2012: 18) notes that the total number of poles is unclear.

⁹⁶ Ivanova 2012: 6.

⁹⁷ Munchaev 1994b: 189, figs 1, 2, 31.

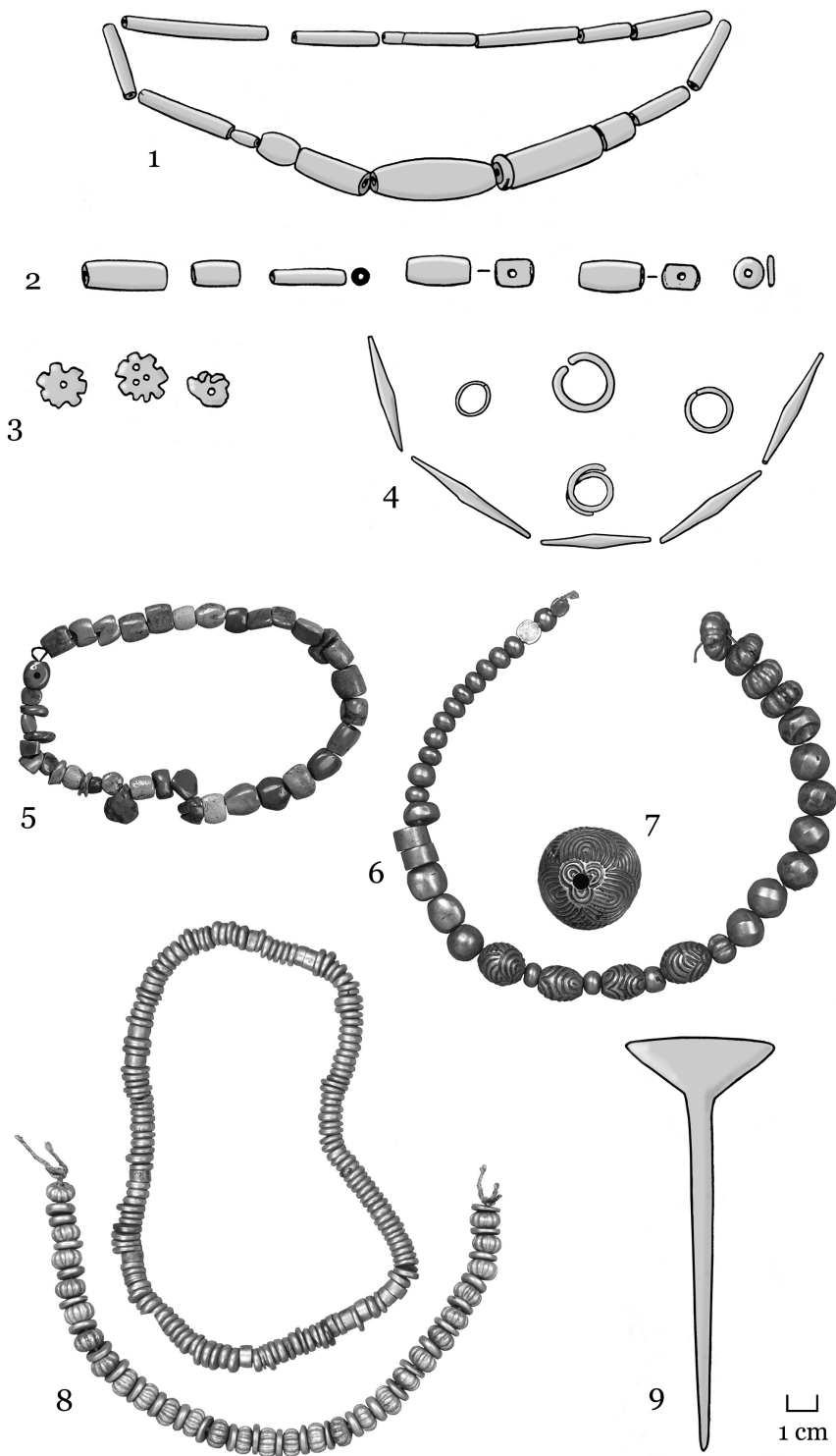


Figure 4.12. Maikop jewellery: (1–3) Staromyshevtsovskii; (4) Novosvobodnaia; (5–8) Maikop princely barrow; (9) Ust'-Dzhegutinski (photographs courtesy The State Hermitage Museum, St. Petersburg, © Vladimir Terebenin; drawings after Munchaev 1994b).

compartments also had precious objects, though nowhere near as rich: five copper vessels were found in the north-east chamber, and the north-west chamber had a large clay pot.

Two silver goblets (9.6 cm and 10.2 cm in height), richly decorated with engraved designs of animals and other motifs, have received the most attention. One goblet has a globular body with a high neck and wide mouth, and a pair of lug handles for suspension (Figure 4.14(1)). Across the neck is a pattern of nested zigzags, possibly schematic mountains, broken by the image of a bear on his hind legs, flanked by two spreading trees. The body of the vessel is divided by two sinuous bands filled with a herringbone pattern, interpreted as rivers flowing from the mountains, which meet at the base of the vessel.⁹⁸ A bird is associated with one band, whereas the other band has a plant. Two rows of animals fill the rest of the space on the body: in the top row there is a wild bull, a wild horse (note the upright mane and short tail with ‘tassel’), and a lion with a bird on its back, each facing left, and a wild bull facing the other way; the bottom row, around the base of the bowl, has a gazelle (sometimes referred to as an ibex), a wild sheep, a wild boar, and possibly another lion (or tiger without the stripes) following each other.⁹⁹ To maximise the space, the artist has placed the sheep across the band. The second goblet is of a similar shape, though its neck is taller (Figure 4.13(1)). Its base is decorated with nested semi-circles that form a rosette. The entire body is filled with the representation of five animals and three birds – an ibex, a bull, a leopard (or cheetah), a bird, and another ibex and a leopard each with a bird on its back. A band with a herringbone fill defines the juncture of the neck and shoulder.

Unlike the Maikop kurgan, the two rich tombs at Novosvobodnaia were constructed of stone slabs and in plan resembled the later dolmens of north-west Caucasus (Chapter 6).¹⁰⁰ Each tomb had two chambers, separated by a megalithic stone with an access hole. Both chambers were roofed: one was flat, covered by a single slab of stone, the other gabled. One of the walls of the secondary chamber was painted with ochre. A contracted skeleton, thickly covered with red ochre, was found in each chamber. One of the deceased, a male, was dressed in a linen garment with a deep red painted border. Over this was an organic layer of yellow, possibly a feather down. Finally the man’s corpse was covered with a silver-collared, black fur coat, the fur turned outward.

⁹⁸ For a summary of the interpretations of the Maikop goblets, see Govedarica 2002.

⁹⁹ For the identification of these species, I have largely followed Uerpmann and Uerpmann 2010. Although there are no known faunal remains of gazelle in the Caucasus, they could be accommodated in the steppe region of the western Caspian, which would also have been a natural habitat for the horse. And the tiger did once roam Mesopotamia and the Persian Plateau. See also Ivanova (2012), who uses these identifications and variations thereof to support her argument that Maikop was involved in a central Asian and Iranian interaction sphere.

¹⁰⁰ Veselovskii 1901.

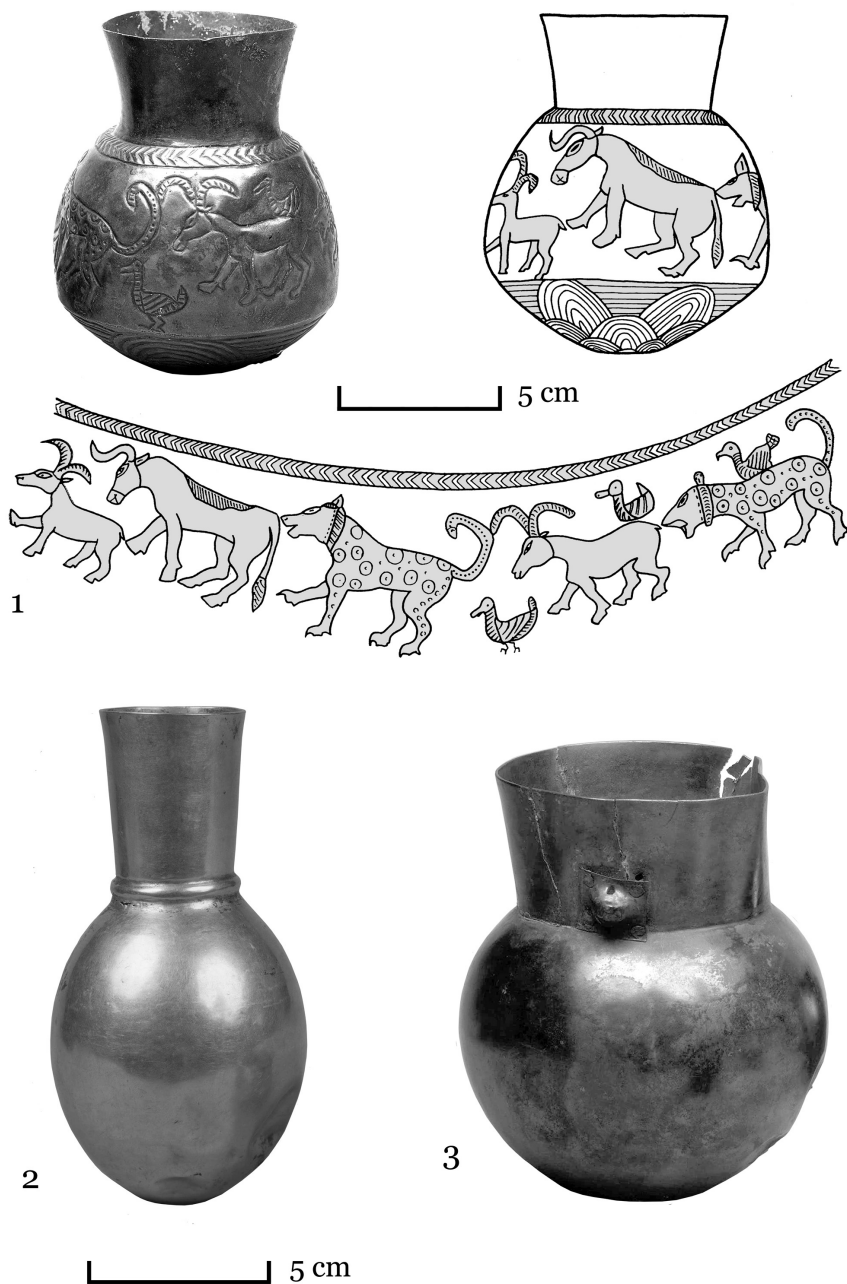


Figure 4.13. Maikop princely barrow: (1) decorated silver goblet; (2) undecorated gold goblet; (3) undecorated silver goblet with lug handles (photographs courtesy The State Hermitage Museum, St. Petersburg, © Vladimir Terebenin; drawing after Munchaev 1975).

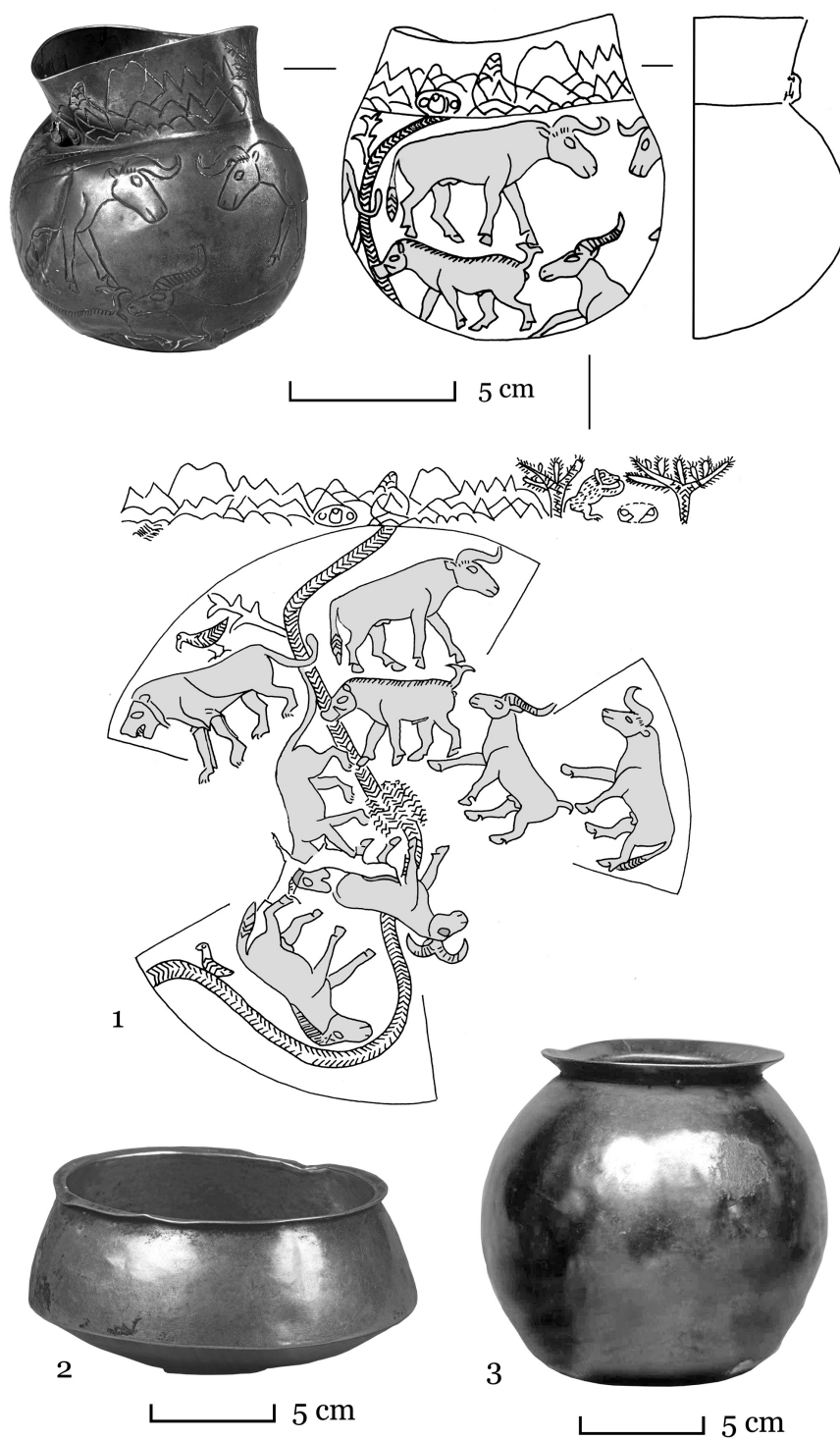


Figure 4.14. Maikop princely barrow: (1) decorated silver goblet with a pair of lug handles; (2) undecorated gold bowl; (3) undecorated silver container (photographs courtesy The State Hermitage Museum, St. Petersburg, © Vladimir Terebenin; drawing after Rostovtzeff 1922).

The furnishings of the Novosvobodnaia tombs are also spectacular, but do not reflect the high level of artistry of the Maikop kurgan. That said, the types of objects, the amount of precious items, and the range of raw materials used mirror the Maikop tomb furniture.

In this context, we should also draw attention to the Staromyshastovskii treasure, dug up by locals in 1897, which belongs to the early phase of the Maikop.¹⁰¹ Its assemblage reflects the sumptuousness of the great kurgan at Maikop. A tall-necked silver vessel with a lid held over 2,500 gold and silver beads of different shapes and sizes, 400 carnelian and glass beads, about 40 gold temporal rings, often joined to each other and occasionally threaded with beads of carnelian, and other items of precious metal (Figure 4.12(1–3)).¹⁰² Included were a silver figurine of a bull and an antelope, gold appliqués of lions, a golden head of a lion, and a diadem ornamented with three gold rosettes.

Despite all this richness, the vast majority of Maikop burials were modest but followed the same principles of interment as the wealthy barrows, albeit scaled down considerably. Graves were simple rectangular pits, occasionally stone lined (cist-tombs), and roofed with a wooden planks.¹⁰³ Floors were generally left bare, though pebble paving and woven mats have been reported. Nearly always, the deceased – rarely were they collective burials – was laid to rest on their right side in a flexed position and sprinkled heavily with red ochre. Colour symbolism, vividly expressed through redness, was clearly important to these communities. Apart from the occasional jewellery item, gifts were placed around the body. The quantity of objects varied, but they included pottery vessels, personal items, and stone tools (blades and projectile points). Metal implements and weapons hardly ever occurred. Before the grave was sealed with a barrow of stone and earth, a funerary meal was eaten. Remnants of the feast and its preparation – animal bones, ceramic containers, and hearths – have been reported scattered around the tombs.

Death as a Performance and the Persistence of Memory

This has been our first encounter with the materiality of death on a large scale, a theme that will continue throughout this study. It would be appropriate, then, to say a few words on archaeological approaches to mortuary data, and how the evidence just presented can be best explained. Death and its physical remains are inextricably part of two fundamental concepts – culture and ritual. Because it would be futile to detail the plethora of views, often contradictory, on these two notions, their quintessential meaning is simply presented. Culture here refers to the multiplicity of ways – shared values, thoughts, beliefs, and

¹⁰¹ Veselovskii 1900b.

¹⁰² Munchaev 1994b: fig. 52.

¹⁰³ Gei 2008; Korenevskii 2008b.

actions – by which members of a social group are distinguished. The richness of experiences that individuals bring to a group means that social groups should not be viewed as clearly defined entities, but instead as pluralistic units.¹⁰⁴ Even so, social groups develop a cultural identity – the way a community perceives itself – that is at its most salient when a group confronts the ‘other’.¹⁰⁵ In this respect, borderlands like the Caucasus offer ideal settings to study identities, as Barth’s influential study has shown.¹⁰⁶

Ritual is socially prescribed symbolic behaviour.¹⁰⁷ It is formalised rather than haphazard, and meaningful instead of utilitarian. As an act, it follows strict procedures that are performed by a group rather than an individual, in so far as ritual expresses the beliefs of a society. In this sense, ritual actions can take many forms and reflect both religious beliefs and secular experiences. Ritual performances can be used to connect with or invoke the spirit world, for instance, or to reinforce socially acceptable rules and social order. Rites can also be used to renegotiate the relative status of individuals and groups within a community, or even to challenge existing codes to rejuvenate a society.

Turning to funerary ritual, many anthropologists and archaeologists have been influenced by the early work of Arnold van Gennep, who maintained that ceremonial rites signal key transitions in the social status of an individual.¹⁰⁸ These fundamental shifts in standing can be represented by events such as birth, puberty, marriage, parenthood, and death, but also may occur upon taking a political office. Whatever the social group, van Gennep found that the rites of passage of diverse societies shared certain broad features, including segregation, challenging trials that demarcate the old and the new, and liminal states, a socially ambiguous position from which individuals emerge into their new roles. Anthropologist Victor Turner developed this idea further when he wrote:¹⁰⁹

Liminal entities are neither here nor there; they are betwixt and between the positions assigned and arrayed by law, custom, convention, and ceremony. As such, their ambiguous and intermediate attributes are expressed by a rich variety of symbols in many societies that ritualize social and cultural transitions. Thus, liminality is frequently likened to death, to being in the womb, to invisibility, to darkness, to bisexuality, to the wilderness, and to an eclipse of the sun or moon.

¹⁰⁴ Rapport 2014: 92–102.

¹⁰⁵ Jones 1996: 67.

¹⁰⁶ Barth 1969.

¹⁰⁷ Rappaport 1999.

¹⁰⁸ Van Gennep 1960. Amongst the many recent studies concerned with funerary ritual, see Laneri 2007; Parker Pearson 1999.

¹⁰⁹ Turner 1969: 95.

Although van Gennep's ideas have been criticised for being too broad and universal to reflect the diversity of societies and their belief systems, they nonetheless provide a useful heuristic model from which to start.¹¹⁰

The 1970s was a watershed in archaeological approaches to funerary evidence. Tombs and their assemblages ceased to be studied as objects, but were now viewed as expressions of broader social systems.¹¹¹ Status in life, it was argued, is reflected in treatment at death.¹¹² Wealthy and powerful individuals were accorded ceremonies and provided with goods commensurate with their former position in the social group. The emphasis in this approach was on the interred individual. Those who see archaeological burials as reflecting the intentions of the survivors afford quite a different perspective. They maintain that the long and public mortuary process – a funeral is a process and not an event – might have been used to reaffirm or renegotiate cultural identity. According to this group, burials and their remains might have been deliberately manipulated to assert power and influence. Prestige objects in a tomb, for instance, are seen not as a manifestation of the influence or status of the deceased, but as an example of the 'destruction of wealth' by survivors to fulfil their aspirations of status. The capacity to dispose of wealth is an effective means to convince onlookers that power is warranted. But these two extremes need not be mutually exclusive. Burials and their accompanying ritual could indeed reflect both the social status of the dead and the machinations of survivors to maintain or increase their power and prestige.

I maintain that the inequality apparent in Maikop burials is the materialisation of an emergent elite ideology within the northern Caucasus. Inequality is less conspicuous in the Chalcolithic southern Caucasus, where it virtually disappeared in the subsequent Early Bronze Age (Chapter 5), only to re-emerge again during the so-called Early Kurgan period in the mid-third millennium BC (Chapter 7). Unlike the wealthy third-millennium mortuary complexes of Syria, such as Umm el-Marra, which were intra-mural and prominently positioned within the settlement, the wealthy Maikop burials were stand-alone monuments on the landscape, whose associated settlements have not been identified.¹¹³ Yet their visibility in the core area of the cultural province should not be ignored. That there are other large barrows, as yet unexcavated, might suggest either rival polities, or perhaps emulation by peers within the same group. The idea that these barrows reaffirmed territoriality and acted as monuments where ancestors were venerated has much to recommend it. That distinctive flat top of Maikop barrows might well have been used as a platform to perform rituals.

¹¹⁰ For a critique of van Gennep's determinism, see Parker Pearson 1999: 21–3.

¹¹¹ Laneri 2007.

¹¹² Binford 1972; Saxe 1970.

¹¹³ Schwartz 2007 for Umm el-Marra; see also Porter 2002 on Tell Banat.

The Crafts

Metalwork: Metal production is the highlight of the north Caucasian Chalcolithic. The sheer quantity and diversity of metalwork is second to none in the Old World.¹¹⁴ Its high visibility can be explained in part by the contents of the archaeological record, which favours tombs over settlements. Even so, this should not overshadow the skills and talents of the artisans. Metalwork is found in all phases of the Maikop culture, but it was most diversified during the late phase. Metalsmiths worked gold, silver, and copper throughout the Maikop culture, but the quantity and type of metal objects changed. The most notable difference is the decline in the number of objects manufactured from precious metals in Phase 2 (the Novosvobodnaia stage), with a concomitant increase overall in the quantity of artefacts produced, indicating a tendency towards copper objects.¹¹⁵ Furthermore, the quality of copperworking improved, with a more elaborate range of forms, especially amongst weapons and tools.

More than 200 objects have been analysed for their constituent elements by a number of laboratories (Moscow, Saint Petersburg, and Baku), and they appear to fall into two groups: one comprises arsenical-copper objects, which are concentrated in the Kuban region, whereas the others are copper-nickel-based and are found in Kabardino-Balkaria.¹¹⁶ Analyses show temporal patterns in chemical constituents. Arsenical copper was used for the majority of metal artefacts in both phases of the Maikop culture, but the amount of arsenic did not change, ranging from about 0.5 to 10 per cent. Nickel is a characteristic of arsenical copper and the amount in the Maikop objects varied from as low as one part per thousand to about 4.4 per cent, with artefacts from Phase 2 generally having low concentrations.¹¹⁷ In this regard, they are comparable to the chemical makeup of the later Kura-Araxes metalwork, to which they have often been compared.

Researchers are divided on how to interpret these data. The source of metal ores for the second group of objects, argues Chernykh, is the Near East, either Anatolia or Iran, owing to the lack of comparable metals in the northern Caucasus. Others have gone further and posited that almost all the metal tools and implements from the rich Maikop kurgans were imports from the Near East.¹¹⁸ This view must now be questioned given that nickel, copper, and precious-metals deposits have been located in the Caucasus.¹¹⁹ Accordingly, Galibin believes that the Maikop metalwork is a local product, and that the two

¹¹⁴ Korenevskii 2011; Rezepkin 2010.

¹¹⁵ Courcier 2007, 2010.

¹¹⁶ Chernykh 1966, 1992.

¹¹⁷ Courcier 2010: 79.

¹¹⁸ For an overview see, Korenevskii 2008a.

¹¹⁹ Courcier 2007, 2010.

groups do not reflect different origins, but rather the distribution of nickel in the northern Caucasus.¹²⁰ Moreover, the quantity of nickel can vary depending on how the smith works the metal. Copper objects that are cold-worked, annealed, and then cold-worked again have higher concentrations of nickel than those that are cold-worked and annealed to a temperature of 600°C. This does not preclude foreign influence having affected artistry. Certain daggers (Figure 4.15(1–7)) and various types of hoes and adzes (Figure 4.16(6)), once thought to be local innovations, have now been shown to have parallels in the Near East.¹²¹

The great kurgan at Maikop has provided many metal objects of the early phase, which include a dagger with rivets still attached (Figures 4.15(3)). Knives and daggers are the most common metal types during the later Maikop phase and they are ubiquitous, but particularly common at Chegem I and II. Daggers – a fighting knife for close combat – can be distinguished essentially on the basis of the blade, which was flat in the early period and had a midrib and occasionally longitudinal grooves in the more developed late types (Figure 4.15(5, 7)).¹²² On the whole, the early daggers tend to be squatter, with sloping shoulders that gave them a lozenge shape. As they developed, the dagger blades became broader and rectangular-shaped, with horizontal or rounded shoulders. They can be small (ca. 4–7 cm) or long (greater than 20 cm in length). A well-preserved example from Novosvobodnaia Barrow 31 (Burial 5) has traces of the wooden handle still attached (Figure 4.15(7)).¹²³ Also from Novosvobodnaia (Barrow 2) is a dagger cast with a metal handle (Figure 4.15(6)). And from the Nal'chik burials comes a knife with a rounded end (Figure 4.15(1)). Swords, used for cutting and thrusting, appeared only in Maikop Phase 2.

Socketed axes form another category and are found mostly in the Kuban and Kabardino-Balkaria regions (Figure 4.16(1–5)). They have been classified according to shape and weight. Sergei Korenevskii has studied them in detail and has articulated a developmental sequence.¹²⁴ The earliest (Group 1) are generally stubby and have a concave edge, whereas later examples of the second group are longer and invariably attributed to Maikop Phase 2. These later examples have variants classified on specific attributes such as a straight top edge, a narrowing at the socket, or a distinctive heel.¹²⁵ Novosvobodnaia Barrow 31 yielded two unusual types of axes: one is decorated with imitation rivets and incised ornamentation along the edge, whereas the other has a narrow body and is decorated with circular holes filled with gold

¹²⁰ Galibin 1991.

¹²¹ On the Near Eastern parallels, see Ivanova 2013: 98.

¹²² Korenevskii 2011: 186–213.

¹²³ Rezepkin 2012: fig. 71: 20.

¹²⁴ Korenevskii 1974; 2011: 228–53.

¹²⁵ Korenevskii 1974; Courcier 2007: 212.

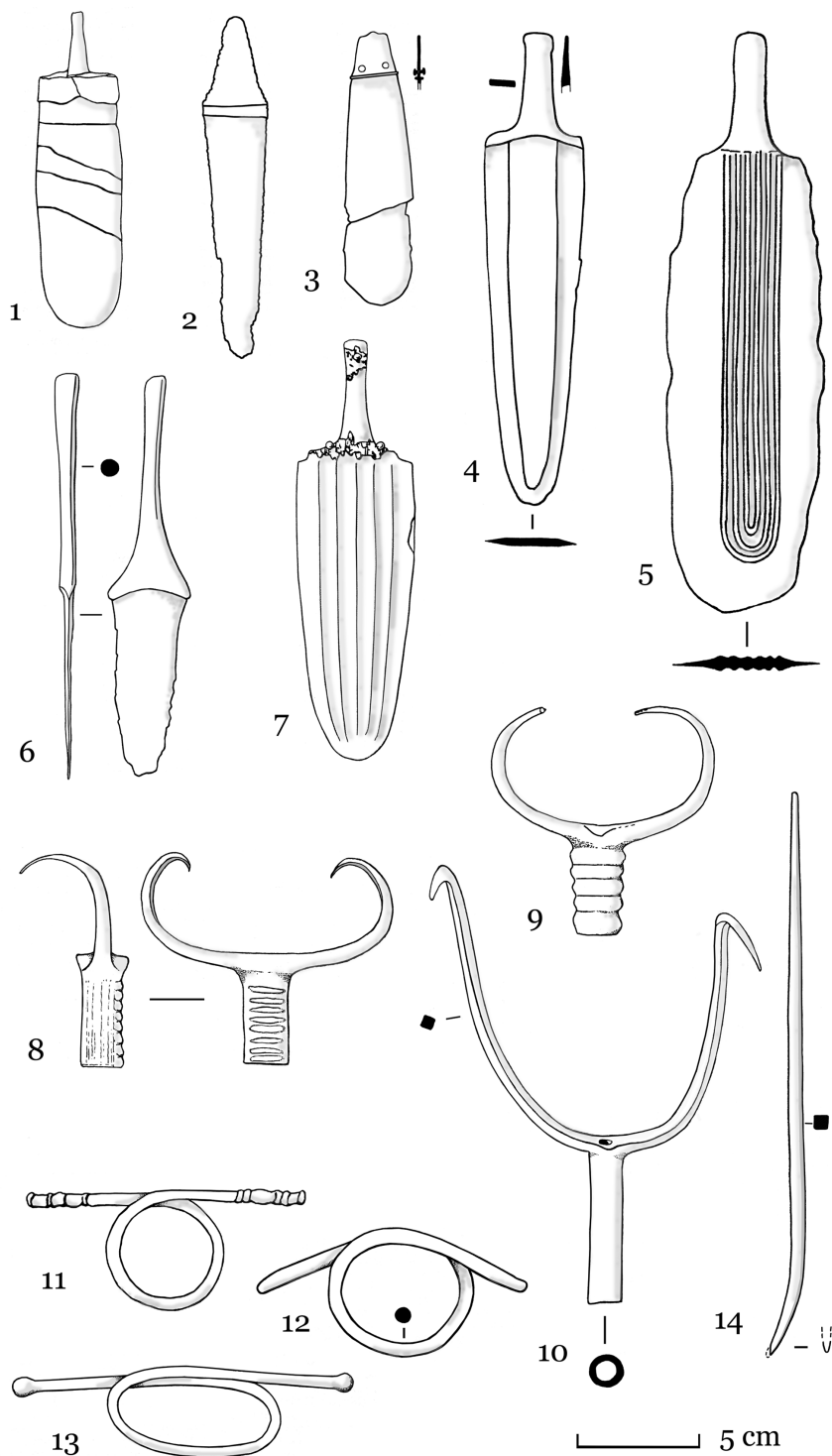


Figure 4.15. Maikop metalwork: daggers (1) Nal'chik; (2) Ust'-Dzhegutinskii barrow; (3) Maikop princely barrow; (4) Bamut; (5) Kishpek settlement; (6) Novosvobodnaia Barrow 2; (7) Novosvobodnaia Barrow 31; (8-9) bidens, Novosvobodnaia Barrow 31; (10) chance find; *psalias* (11-12) Maikop princely barrow, (13) Bamut settlement; (14) Bamut barrow (after Munchaev 1994b, 1975).

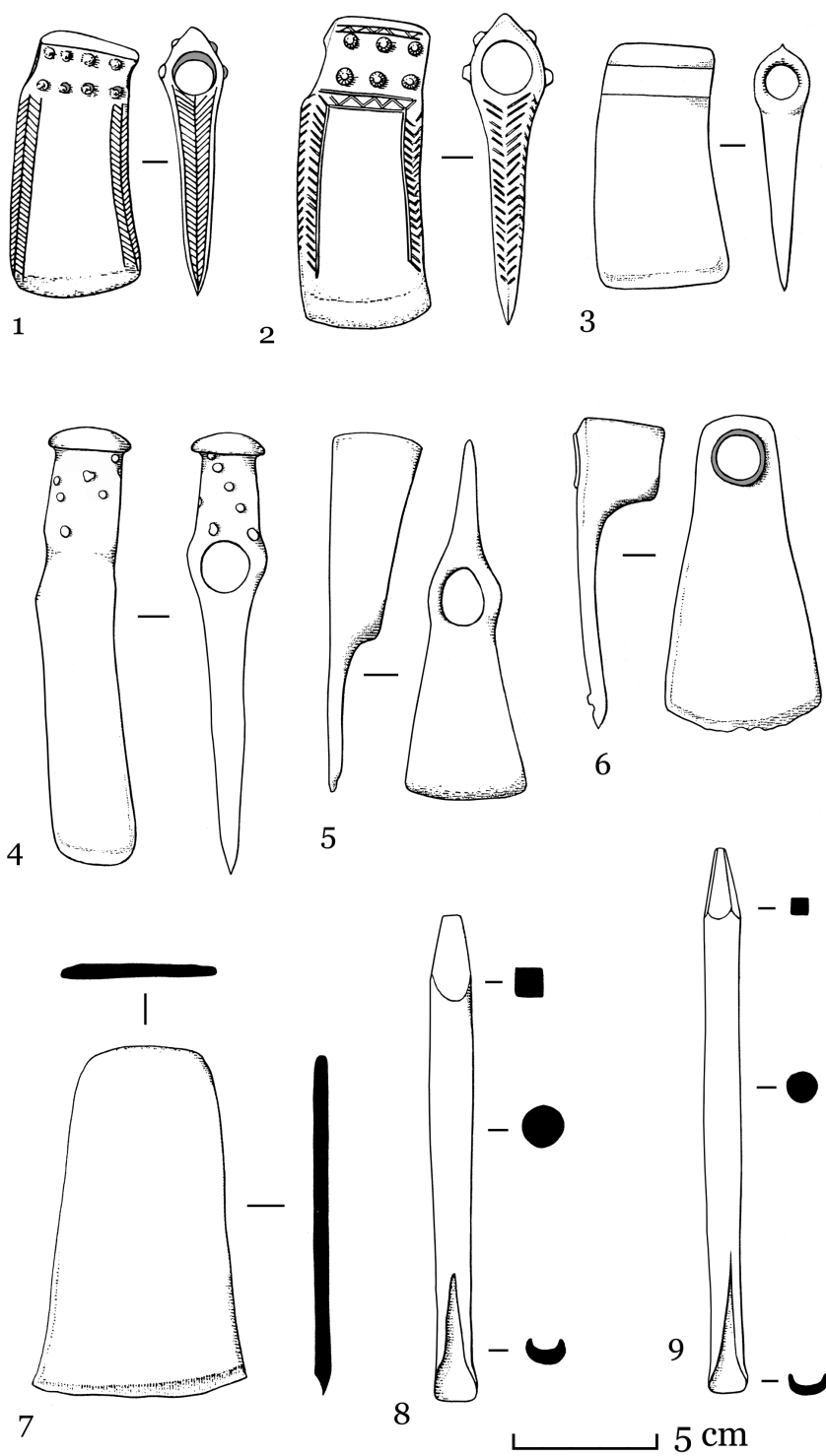


Figure 4.16. Maikop metal axes, adzes and chisels: (1) Novosvobodnaia Barrow 1; (2, 4) Novosvobodnaia Barrow 31; (3) chance find; (5–6) Maikop princely barrow; (7) Bamut barrow; (8) Novosvobodnaia Barrow 31; (9) Nal'chik (after Munchaev 1975; 1994b).

and silver (Figure 4.16(2, 4)). A comparable studded example comes from Novosvobodnaia Barrow 1 (Figure 4.16(1)).

This late phase saw a dramatic increase in awls, presumably used for leatherworking, which come in a range of lengths and cross-sections, some with a bent end. It also ushered in a new set of woodworking tools – chisels with a concave edge, flat axes, and adzes, as well as the distinctive two-pronged tool and the loop of bronze.¹²⁶ Though the adzes have been known from Iran (Sialk III) for many years, they appear to be a north Caucasian invention, with the first example from the southern Caucasus – from Orchosani, near Vale, in Georgia, just north of the Turkish border – discovered only recently. Both the form and nickel content (4.2 per cent) of the Orchosani example set it apart from south Caucasian metal types.¹²⁷ Woodworking may not be the only activity of this tool kit. Courcier believes that the pick-axe (Figure 4.16(5)), a shaft-hole tool fashioned in metal and stone, was probably used in extractive mining.¹²⁸ It increases in numbers in the later phase, and is also found elsewhere in the southern Caucasus, Daghestan, and Iran (Sé Girdan). Both its shape and the lack of impurities in some examples again points to the Balkans.

A conspicuous item is the socketed two-pronged tool with a sleeve of varying length that is sometimes horizontally grooved (Figure 4.15(8–10)).¹²⁹ Associated with this type is the single hook. It has been suggested that the bident was used in ritual to hook out meat cooked in bronze containers.¹³⁰

Spearheads from the northern Caucasus are similar to those from the Kura-Araxes culture in the southern Caucasus and Arslantepe (Figure 4.17(1–6)). First, there are those with a narrow oval shape tapering to a point at one end, and a long and swollen shank for strengthening. These are comparable to spearheads from Anatolia and north Syria, including Arslantepe VIA and VIB and Tell Judaidah (Amuq H).¹³¹ The second type, currently found at one site in the north, is a lethal-looking narrow point with a squared section. The unique bronze disc, 15 cm in diameter, from Chegem I has an unknown function, though it might have been fitted to a shield as a boss, or used as a mirror for communication.¹³²

Bronze cauldrons were a local product, not occurring elsewhere in the Near East or the southern Caucasus (Figure 4.18). They were made from sheets of bronze about 1 mm thick and, like most ceramic vessels, are globular or ovoid

¹²⁶ Korenevskii 2011: 262–78.

¹²⁷ Orjonikidze and Jibladze 2010: pl. 2:5. Despite the clear affinities with the northern Caucasus, the hoe's context is very late – around the early Kurgan period of the southern Caucasus.

¹²⁸ Courcier 2007: 211; 2010: 79.

¹²⁹ Korenevskii 2011: 228–90.

¹³⁰ Il'iukov 1979.

¹³¹ Courcier 2007: 215; Korenevskii 2011: 257–60.

¹³² Korenevskii 1981: 276.

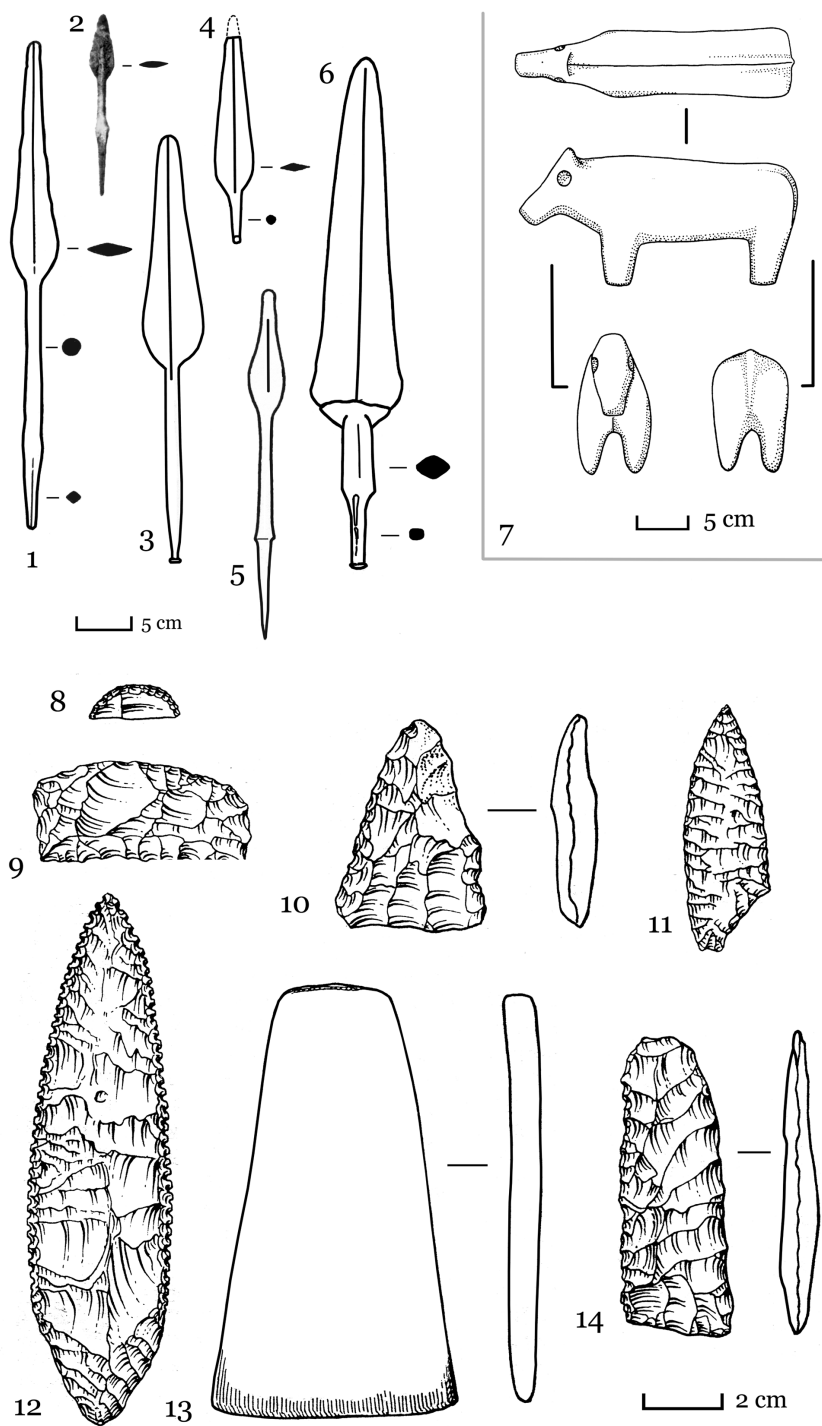


Figure 4.17. Maikop bronze spearheads: (1) Psebaiskaia Barrow; (2) Novosvobodnaia Barrow 2 (Grave 2); (3) Psekupskii; (4) Armavir; (5) Klady Barrow 11; (6) Baksan; (7) stone figurine, Novosvobodnaia Barrow 31; stone tools: (8, 9, 13) Maikop Princely Barrow; (12) Novosvobodnaia Barrow 31; (10) Pablovskaiia; (11) Kostromskaia Barrow; (14) Sebastopol'skoi settlement (after Munchaev 1994b; Korenevskii 2011).

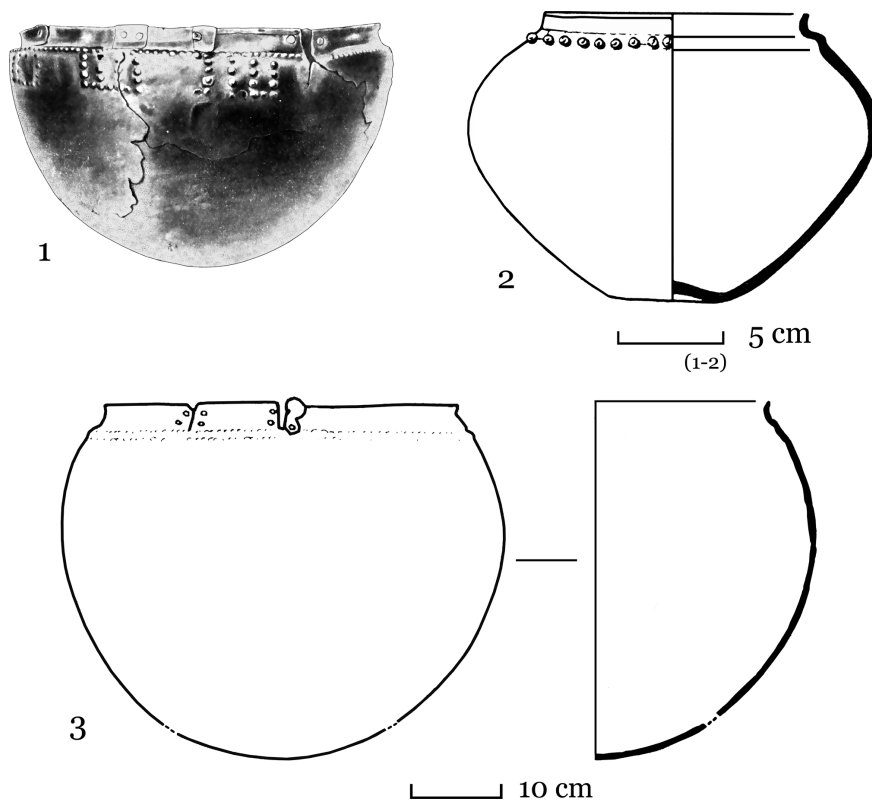


Figure 4.18. Maikop cauldrons: (1) Bamut; (2) Novosvobodnaia Barrow 1; (3) Novosvobodnaia Barrow II (after Munchaev 1975; 1994b; Rezepkin 2012).

in shape.¹³³ They range in height from 21 to 53 cm. Most have been found in the burials at Novosvobodnaia, Bamut, and Tsagan-Nur, and largely in late Maikop contexts. These were not symbolic objects, but well used in ritual, as attested by the soot and signs of repair some examples bear. Complementing the cauldrons is a long-handled ladle from Novosvobodnaia and a dish found at Klady. In later burials, copper containers increased in number. Analyses reveal they contained arsenic, in some instances up to 8 per cent, and one vessel also had nickel – neither would have been conducive to good health.

An intriguing object is the loop of bronze bent from a rod, which sometimes ends in a knob (Figure 4.15(11–13)). These are called *psalia* in Russian, representing their supposed function as part of a cheek piece, though in reality their function is unknown.¹³⁴ Viktor Trifonov and others have noted the striking resemblance to the circular attribute held by Mesopotamian deities.¹³⁵

¹³³ Korenevskii 2011: 305–8.

¹³⁴ Munchaev 1975: 390; 1994b: fig. 57.

¹³⁵ Trifonov 1987a: 22–3; Bobokyan 2010.

Ceramics: Compared with metalwork, pottery is under-studied. Korenevskii provides us with the most detailed study of ceramics based mostly on material recovered from settlements such as Galiugai.¹³⁶ The fabric of Maikop pottery can be quite compact, well baked and tempered with grit inclusions. Vessels often bear a dark-grey biscuit fired to an orange colour along the edges, which also show signs of a slip. Potters were not averse, however, to using chaff temper, or a combination of vegetal and grit additives. Korenevskii groups ceramics into four lots, based on geography and chronology, though the divisions are by no means clear: Maikop (including Galiugai I–III, Ust-Dzhugutinskii, and Sereginskoe settlements), Prekupska, Dolinskoe, and Novosvobodnaia. In broad terms, the ceramic repertoire shifts from a limited range that emphasises rounded and simple profiles – globular pots and jars, and hemispherical bowls and cups – to one that includes tall-necked jars with incised decoration (Figure 4.19).

Handles are not common in the Maikop group and are usually a feature of large containers, where they link rim to shoulder, or are simply attached to the upper shoulder. Rims are simple. On large pots they are plain and short, and point straight up, or flare outward. Bowls display a little more variety: inward pointing, swollen on the interior, and accentuated with a hollow groove. Hemispherical bowls and containers with small loop handles linking neck to shoulder, or tubular lugs, are also part of the assemblage. This basic shape was also produced in alabaster (at Maikop) and silver (at Ust'-Dzhugutinskii).¹³⁷ Vessels are manufactured on a slow wheel and are chaff-tempered with no grit inclusions. Very few are decorated. Perforated pot stands are also a feature. Pottery is often compared to the Leilatepe sequence and Amuq F, though Maikop is much more restricted in types and has more grit in its fabric.

Subsequently, in terms of ceramics, the culture province appears to divide into two halves (Prekupska and Dolinskoe), both of which are characterised by a more diverse repertoire of squat ceramic forms with flat bases, ornamented using a variety of techniques, including net and roulette motifs, as well as some relief decoration. According to Korenevskii, these vessels show signs of wheel manufacture. The potter's craft develops during the Novosvobodnaia phase. Vessels are now decorated, often with finely incised herringbone patterns, or the eye-catching all-over rocker-impressed pattern (a zigzag of curved lines) produced by moving a straight or curved edge across the soft clay surface by pivoting on alternate corners.¹³⁸ Popular shapes include tall-necked jars with a pair of small loop handles, and a black polished exterior and beige interior.

Jewellery: This collection includes six silver pins, some with a curved upper shank, from several barrows at Novosvobodnaia. There is a gold-eyed needle

¹³⁶ Korenevskii 1993; 2004: 22–35.

¹³⁷ Munchaev 1994b: figs 58: 4; 51: 5.

¹³⁸ Rezepkin 2012: figs 156–66.

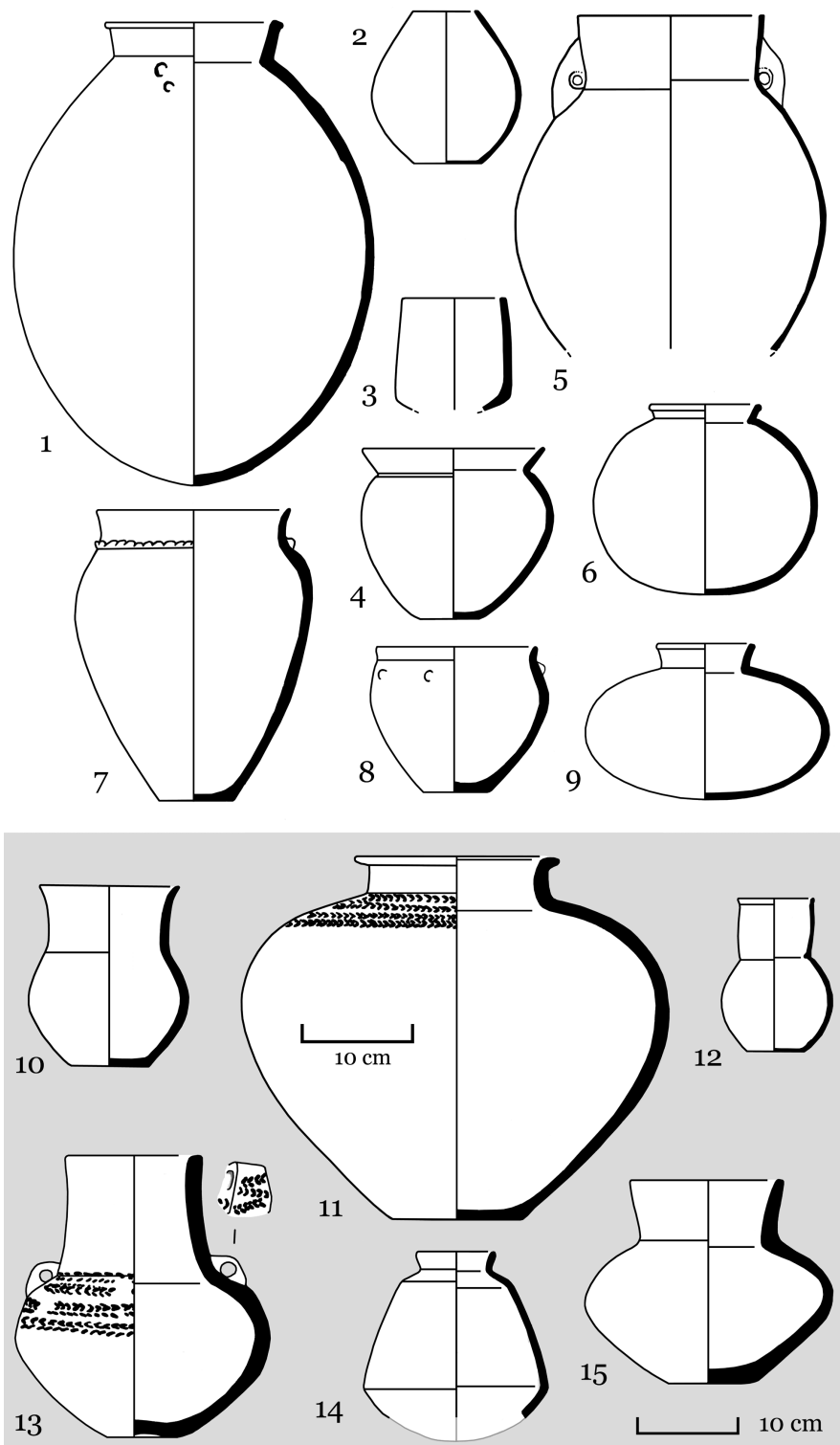


Figure 4.19. Main forms of Maikop ceramics (after Munchaev 1994b; Korenevskii 2004; Rezepkin 2012).

from Chegem. Gold ribbons (diadems?) and rings were also manufactured, with the latter sometimes found with beads of semi-precious stones such as carnelian (Figure 4.12). We also have biconical paste pendants set in gold and silver.¹³⁹ Metal beads are numerous and come in a great variety of shapes and sizes. They belong mostly to the late Maikop phase. Gold beads were more numerous than silver and come from the rich barrows including Nal'chik and Novosvobodnaia.

Chipped stone tools and other stone items: Agricultural implements made from stone have been found mostly in settlement deposits. There are two types of querns – saddle-shaped and an almost square, flat variety – made from sandstone or hard volcanic rocks.¹⁴⁰ Some are quite large, measuring up to 50 cm in length. Pestles are less common, usually oblong with a flat working surface, though round types occur. Those from a tomb context include the pestle found at the feet of the skeleton at Inozemtsevo.¹⁴¹

Chipped stone tools are common, attested in both settlements and tombs. Most tools are knapped from flint. Rarely, they are made from obsidian, which was south Caucasian in origin.¹⁴² Parallel-sided and lunate sickle blades (Figure 14.17(8–9, 14)), often bearing use-wear sheen, were inserted within a bone or wooden haft. These microliths are characteristic of the early Maikop period and virtually disappear in later centuries.¹⁴³ Other chipped stone tools included projectile points, awls, blades and scrapers. Late Maikop chipped tools are quite impressive and some excellent specimens have been found at Novosvobodnaia. Two are noteworthy and characteristic: an elongated leaf-shaped blade with a finely flaked surface and serrated edges (Figure 14.17(12)), possibly used to cut meat, and an asymmetrical shouldered projectile point with a notched base (Figure 14.17(11)).¹⁴⁴ The range of Maikop flaked stone tools stands in contrast to the relatively restricted repertoire of the Kura–Araxes tradition.

Edge-ground stone axes are not particularly common during the Maikop period. One type of Early Chalcolithic shaft-hole stone axe made from diorite, with a thick butt, was reproduced in metal.¹⁴⁵ Another has a curved butt and flat face, and resembles a small shaft-holed hammer rather than an axe (Figure 4.17(13)).¹⁴⁶ This type is restricted to the Kuban region and thought to derive from earlier Pit Grave types. Several were found at Chegem I and

¹³⁹ Munchaev 1994b: fig. 48: 15–18.

¹⁴⁰ Munchaev 1994b: 188, fig. 46; Hamon 2007.

¹⁴¹ Munchaev 1994b: 189.

¹⁴² About 5 per cent of the chipped stone tools from the site of Dolinskii were manufactured from obsidian (Kruglov and Podgaetskii 1941: 181); see also Formozov 1965: 112.

¹⁴³ Formozov 1965: 87; Munchaev 1994b: fig. 46: 1–8.

¹⁴⁴ Rezepkin 1991: 176; Munchaev 1994b: fig. 46: 26–29, 12–16.

¹⁴⁵ Munchaev 1961: fig. 11.

¹⁴⁶ Munchaev 1994b: fig. 47: 1–4.

II and another (serpentine) example came from Novosvobodnaia Kurgan 31. Grooved sharpening implements used as spoke-shaves complete the ground stone repertoire.

Beads are very common in the early kurgans from the Kuban – they are rarely found in the Kabardino-Piatigorsk region – petering out towards the end of the Maikop culture. They come in a variety of shapes and materials, including carnelian, turquoise, lapis lazuli, rock crystal, and jet. During the early Maikop phase, beads of semi-precious stones were most likely imported from distant regions such as central Asia and the Indian subcontinent, whereas in the late Maikop, local craftsmen produced them from imported stones. Animal figurines are also manufactured from stone. One example from Novosvobodnaia Barrow 31 possibly represents cattle and still bears traces of black paint (Figure 4.17(7)).¹⁴⁷

Bone objects: Bone had a variety of uses: in handles for composite tools, projectile points (Chegem I and II and the Bamut), and jewellery items such as a pin with a triangular head from Ust-Dzhegutinskii Barrow 13 (Figure 4.12(9)), which has been compared to an identical one from Arslantepe VIA.¹⁴⁸ From Novosvobodnaia come six dice bearing traces of red paint.¹⁴⁹

Wood: A unique and interesting object from Novosvobodnaia is a wooden box, measuring 15 cm long, 12 cm wide, and 8 cm high. Little has been written on this object, but it is thought to be the remains of a musical instrument and has been compared to the lyre from Ur.¹⁵⁰

THE SOUTHERN CAUCASUS

In recent years, the Chalcolithic period in the southern Caucasus has been brought into sharper focus.¹⁵¹ A growing number of radiocarbon dates and external connections assign it to the period from ca. 5000 BC to 3500 BC, prior to the appearance of Kura-Araxes material that defines the beginning of the Early Bronze Age.¹⁵² Two internal phases can be discerned.¹⁵³ An early Chalcolithic period (ca. 5000–4000 BC) well documented at Mentesh Tepe, Ovçular Tepesi and Aratashen, and a late stage (ca. 4000–3000 BC), when the

¹⁴⁷ Munchaev 1994b: fig. 49: 7.

¹⁴⁸ Munchaev 1994b: 198.

¹⁴⁹ Rezepkin 1991: fig. 10:1, 2

¹⁵⁰ Munchaev 1994b: 198.

¹⁵¹ Chataigner 1995; Akhundov and Makhmudova 2008; Wilkinson 2014a.

¹⁵² Lyonnet 2007a: 13. For the problem of terminologies and the associated synchronisation with the Near Eastern lands, see Sagona 2014b.

¹⁵³ Kiguradze 2000.

number of sites increases substantially.¹⁵⁴ There is even a possibility, to judge from Mentesh Tepe and Ovçular Tepe stratigraphic sequences, that what is now designated the early period may in future warrant a further sub-division into Early (5000–4500 BC) and Middle (4500–4000 BC) Chalcolithic.

Archaeologically, the Chalcolithic of the southern Caucasus comprises two broad horizons, best known through their ceramics: Chaff-Faced Ware and Sioni Ware. The former was far more extensive and part of a tradition that reached from the north Syrian and Mesopotamian plains through the middle stretch of the Araxes Valley of Armenia and Azerbaijan to north-western Iran, where it clusters around Lake Urmia.¹⁵⁵ Field surveys of the Doğubayazıt and Van provinces have also revealed some heavy concentrations of Chaff-Faced wares, most notably at the sites of Hanago in Iğdır, and Aştepe and Çolpan in Van region.¹⁵⁶ The Sioni tradition, on the other hand, is local and especially prevalent in the Kvemo Kartli region, but also attested on both sides of the Araxes Valley.¹⁵⁷ Unlike the Maikop villagers, these communities south of the Caucasus Mountains did not engage with the people of the Pontic steppe, but directed their attention to Anatolia and adjacent territories, with whom interaction increased after the Halaf period.

Behavioural activities, economic strategies, and cultural networks distinguish the Chalcolithic villagers from their Neolithic forebears.¹⁵⁸ They may be summarised as follows: a more flexible lifestyle reflected in varying modes of occupation from permanent villages to seasonal camps, whether situated in open plains or in caves; a capacity to benefit from resources across a greater range of environmental zones, including those at higher altitudes; diversified subsistence strategies, which by this time incorporated wine-making; external networks, based on a flow of commodities, which drew them into worlds beyond the Kura-Araxes interfluvium; and an advancement of metallurgy.¹⁵⁹

¹⁵⁴ Mentesh Tepe (Lyonnet et al. 2012), Ovçular Tepesi (Marro et al. 2009, 2011) and Aratashen (Badalyan et al. 2004a).

¹⁵⁵ Marro 2007: 79, map 1.

¹⁵⁶ Marro and Özfiat 2003, 2004, 2005. According to Manfred Korfmann's (1982) consolidation of the crudely excavated material from the small mound of Tilki Tepe, located on the south-eastern shore of Lake Van, Tilki Tepe Level II is neither a stratigraphic deposit, nor a cultural period. But it contains pottery that is both early (grit-tempered holemouth jars and deep bowls), akin to the Neolithic of the Ararat Plain, and late (chaff-tempered jars with either short or pronouncedly everted necks, and conical bowls). Chaff inclusions also characterise Level I, though occasionally the potters added fine grits as well.

¹⁵⁷ We should avoid referring to the south Caucasian Chalcolithic as Early Sioni and Late Sioni, or indeed prioritising the Sioni assemblage (Dzhaparidze 1989: 340–9). See now, Sagona 2014b.

¹⁵⁸ Marro et al. 2011; Sagona 2011; Palumbi 2011; Lyonnet et al. 2012.

¹⁵⁹ Barnard et al. 2011; Areshian et al. 2012; Batiuk 2013; Courcier 2012, 2014.

Chaff-Faced, Late Northern Ubaid-related and Contemporary Traditions (ca. 5000–3000 BC)

CERAMICS AND METALWORK

Chaff-Faced Ware The tradition of Chaff-Faced Ware was defined in the classic archaeological survey of the Amuq Plain (Antakya) carried out from 1932 to 1938 by Robert Braidwood and his team from the Oriental Institute, University of Chicago. Of the 178 sites discovered, 8 were chosen for limited excavation, enabling a culture history comprising 22 phases to be developed. Chaff-Faced Ware was ascribed to Amuq F, which set the framework for the relative chronology of north-western Syria and south-eastern Anatolia to between 3750 and 3500 BC.¹⁶⁰ This stretch of prehistory corresponds with the Late Chalcolithic 3 (LC3) and Late Chalcolithic 4 (LC4) periods of the Santa Fe chronological scheme.¹⁶¹ Recent evidence from Arslantepe VII, however, has pushed back the appearance of Chaff-Faced Ware to the beginning of the fourth millennium BC, which overlaps in part with the Late Chalcolithic 2 phase.¹⁶² This roughly corresponds with evidence emerging from other highland sites, including those from the south Caucasus. Accordingly, Catherine Marro has challenged the consensus view that Chaff-Faced Ware was an indigenous assemblage of the Fertile Crescent. Instead, she argues that the tradition emerged as part of the dynamics in the highlands between the Upper Euphrates and the Kura River as early as 4500 BC.¹⁶³ Chaff-Faced Ware, then, is not only a useful gauge of inter-regional ceramic relationships throughout the Near East (including the far reaches of the Caucasus), it is also a distinctive element in the economic systems of both the formative states and the vast rural landscapes that displayed no form of centralisation.¹⁶⁴

On the whole, Chaff-Faced Ware is a homogenous tradition that reflects standardisation and technological simplification. Although variant regional assemblages are apparent and expressed mostly in the range of vessel forms and to a lesser extent ornamentation, certain technological elements of Chaff-Faced Ware are strikingly similar wherever it occurs. Most obvious is the abundant organic inclusions. Potters added a generous amount of chaff temper to the clay matrix that produced its distinctive fabric. Both surfaces of a container are imprinted with voids left when the chaff was burnt-out during firing. Other than a pale grey core, carbon is not usually diffused into the surrounding clay body, suggesting that the vessels were baked in an oxidising atmosphere.

¹⁶⁰ Braidwood and Braidwood 1960: 226–58. Owing to the disjuncture between Phase E at Tell Kurdu, and Phase F at Tell Judaidah and Çatal Höyük, this period is sometimes referred to as Amuq E/F.

¹⁶¹ Rothman 2001: 7, table 1.1.

¹⁶² Frangipane 2000: 440–4; D’Anna and Guarino 2010.

¹⁶³ Marro 2010, 2012.

¹⁶⁴ Munchaev and Amirov 2014.

These wares contain, by definition, very few gritty inclusions, though some mix-tempered examples have been found.

Vessels are reasonably well made and, on the whole, manufactured by hand, although striations around collared rims of certain vessels would suggest the slow wheel, or wiping of the upper features with a damp cloth.¹⁶⁵ Containers were constructed with coils, though macro-examination of cross-sections rarely reveals this aspect of their technology. The biscuit is consistently pale brown to orange in colour, showing little attempt at experimentation with firing. Some vessels are lightly burnished or smoothed, a treatment that at times obliterates the chaff impressions; however, the majority are left plain. Generally, potters did not decorate their products, but occasionally they lightly combed the exterior of the vessels with bands, a trait shared with Sioni ceramics. Where ornamentation was used, often on the earlier vessels at Mentesh and Ovçular, it comprised crudely executed geometric incised and impressed motifs, or relief designs. At Ovçular, potters applied knobs and snake motifs, and – in a few cases – depicted a row of caprids on the shoulder of jars.

In the highlands east of the Euphrates and in the southern Caucasus, forms are more restricted than those found in assemblages at Arslantepe and in the Amuq. The main shapes in the southern Caucasus are: holemouth jars; large collared jars with wide neck and a short and outward flaring rim; hemispherical bowls with turned-in lips; larger bowls with straight sides that generally have out-rolled rims – simple, beaded, or hammer-head, depending on the site; and scoops or pans (Figures 4.20–4.21). This last form, attested at Chobareti, appears to be a hybrid, heralding an early Kura–Araxes shape.

Marro has identified several regional assemblages along the Euphrates corridor and extending across the northern segment of the Fertile Crescent.¹⁶⁶ One is located in the Upper Euphrates Valley of Anatolia, and includes Arslantepe and the sites in the Altınova Plain of Elazığ (Norşuntepe, Tülintepe, and Tepecik amongst others).¹⁶⁷ On the whole, this group shares affinities with the repertoire from north-western Syria, though the distinctive ‘potter’s marks’ that distinguish the Arslantepe VII assemblage are lacking in the Amuq sequence, perhaps more an instance of greater excavation exposure at Arslantepe than any real difference. Another concentration of Chaff-Faced Ware is located in the Middle Euphrates region and incorporates the Khabur Plain. The main assemblage there is Hacinebi A/B1, where bowls with hammerhead rims and squat jars (casseroles) are key types.¹⁶⁸ Potter’s marks are also found, especially at Tell Brak TW 19–14. A third assemblage is located in the Balikh region and

¹⁶⁵ The claim that potters at Leilatepe used the wheel is more unexpected, Akhundov 2007: 108; Museyibli 2007: 70.

¹⁶⁶ Marro 2010.

¹⁶⁷ Frangipane 2000: 440–4; Gülçur 2000.

¹⁶⁸ Pearce 2000.

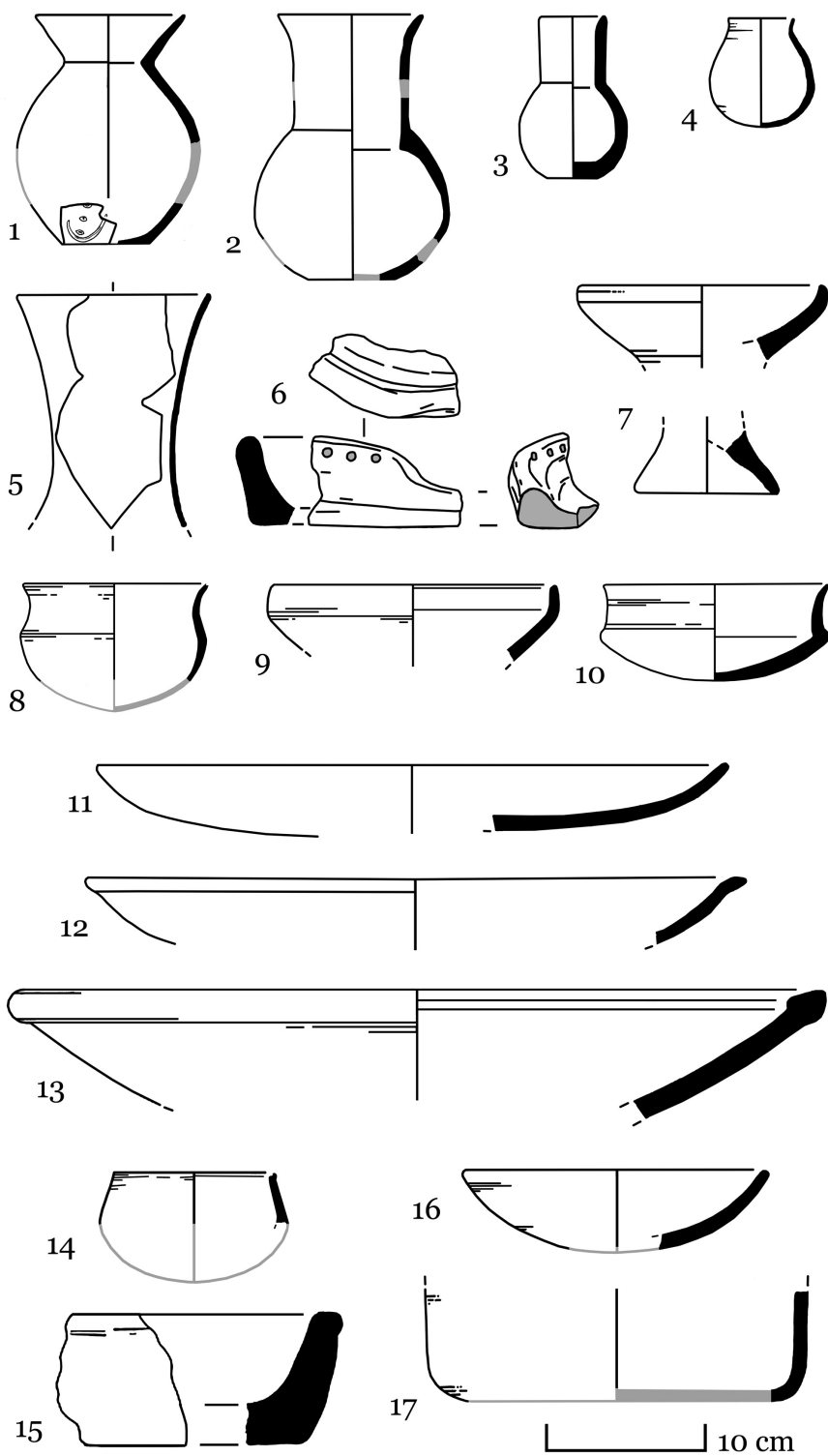


Figure 4.20. Chaff-Faced Ware from various sites (after Akhundov 2007; Narimanov et al. 2007; Areshian et al. 2012).

is characterised by the Hammam et-Turkman VA and VB repertoire. From a dominant Chaff-Faced horizon in Level VA, the quantity of this ware type drops to 60.3 per cent (although it is still dominant) in Level VB, which is considered contemporary with Amuq F, with which it shares certain affinities.¹⁶⁹ An outlier of the tradition is Tepe Gawra, in the Upper Tigris region, where Chaff-Faced pottery was not the dominant ware type and co-existed with other fabric types.¹⁷⁰ Overall, then, the south Caucasian Chaff-Faced vessels share many traits – fabric, shapes, surface treatment, and even potter's marks (Böyük Kesik and Ovçular Tepesi) – with assemblages along the Fertile Crescent.

Painted Wares In the chaff-tempered group of pottery, we should include those examples painted in the Ubaid style, which is well represented at Godedzor, one of the northern outliers of the Ubaid-related tradition.¹⁷¹ Godedzor is a high-altitude site (1,800 m asl), nestled in basaltic lava flows of the harsh Vorotan Valley. The site's location was strategic – on a major communication corridor whence travellers could effectively strike easy trails in most directions. Godedzor's Chalcolithic settlement, the lowest of two levels of occupation, comprised about a metre of deposit and included segments of curved walls built from a single course of stones. These structures were associated with a large quantity of Chalcolithic material, including chaff-tempered ceramics, baked-clay hearth stands, and a rich bone tool industry. Radiocarbon readings, straddling the mid- to late-fourth millennium BC, indicate that Godedzor is a relatively late example of the Chaff-Faced horizon.

A small quantity of painted sherds provides the strongest affinity with the Ubaid tradition of Upper Mesopotamia. These fragments belong to small jars that have a very fine matrix and are bonded with miniscule grit and have mica inclusions. Their walls are very thin and hard-fired to a pale buff, pinkish, or greenish hue. A cream or white slip seals the exterior surface, which is decorated with a pattern of solid triangles executed in black paint. This Late Ubaid ornamentation is found at a number of lowland sites, including Tepe Gawra XII. Variations of this decorative theme, in the form of hatched metopes and horizontal bands of wavy and zigzag lines (Figure 4.21 (6–7, 9)), is also attested in the highlands of north-west Iran, where a concentration is found at Pisdeli Tepe and Tappah Giljar C.

Mention should also be made of the vessels painted with bitumen from Mentesh Tepe and Ovçular. The designs – such as vertical bands intersecting at the base – are often haphazardly executed and applied to open shapes.

¹⁶⁹ Akkermans 1988: 291.

¹⁷⁰ Rothman 2002: 52.

¹⁷¹ Chataigner et al. 2010.

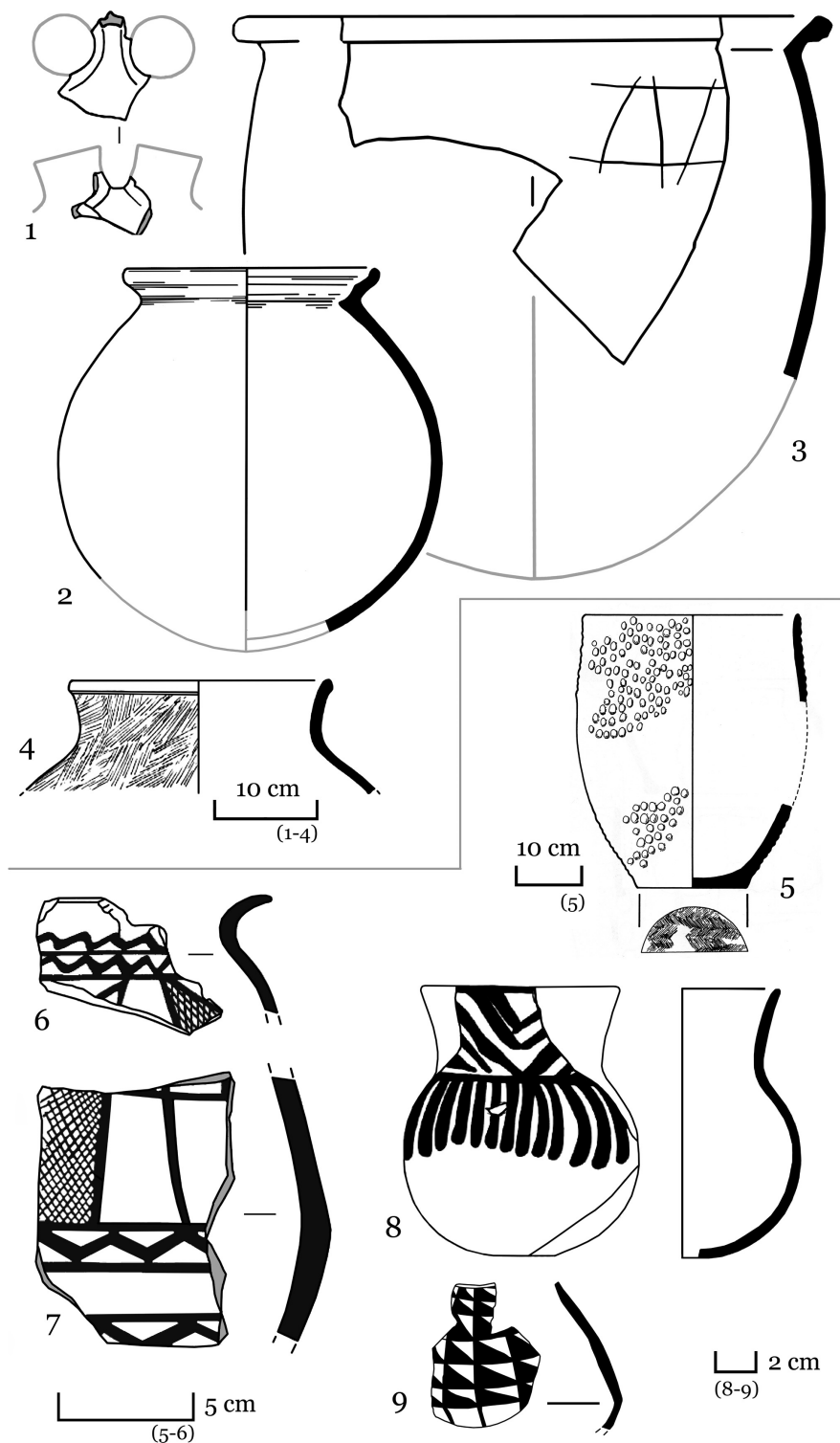


Figure 4.21. Chaff-Faced Ware: (1, 3-4) Leilatepe; (2) Boyuk Kesik; (5) Damtsvari Gora; Godedzor (6, 7) north-west Iranian painted ware; Areni-1 (8) black on red painted ware; (9) Ubaid-like ware (after Chataigner et al. 2006; Akhundov 2007; Narimanov et al. 2007; Areshian et al. 2012).

Centre-dot circles, horizontal bands around the rim, and festoon patterns pendant from the necks of jars were also used, and always applied in a hurried manner.

Other Plain Wares The overwhelming majority of pottery from Godedzor is plain and chaff-tempered, with standard surface treatment. Technologically, these forms are slab built, roughly manufactured, and poorly fired. The range of forms is limited, mostly jars followed by bowls, both displaying simple profiles. Smoke patches and varying surface colours, ranging from buff through pink to brown, point to an open and uncontrolled firing process. There are three other categories of this plain ware: one is thickly slipped in whitish cream or pink, another has a fabric that is chaff-and-grit tempered, whereas a third is thin walled and exclusively tempered with grit inclusions. The decoration of plain ware is distinctive. Vessels' exteriors are covered with either finger impressions or small pellets of clay. A striking example of the latter is the vessel from Damstvari Gora that can be compared to slipped wares with a rusticated surface from Dalma Tepe (Figure 4.21(5)).¹⁷² Both impressed and pellet decoration are found over a wide area from northern Azerbaijan through the Lake Urmia Basin, where they have been discovered in mid-fifth-millennium BC contexts at Dalma Tepe, towards the north-eastern segment of the Fertile Crescent.

Metallurgy and Metalwork Metalworking is significant. An awl with a square shaft and a knife blade, both with a high percentage of tin – 3.8 per cent (knife) and 3.2 per cent (awl) – came from Delisi.¹⁷³ Analysis of similar metal awls manufactured at Kviriastskali and Leilatepe reveal that its constituent elements include 2.01 per cent arsenic and 0.67 per cent nickel.¹⁷⁴ The appearance of arsenical copper artefacts marks a watershed in Caucasian technology. They occur at sites including Tsiteli Gorebi and Alazani III (Kviriastskali), and in a number of Darkveti rock shelters. Their chemical composition relates an interesting story. Like the earlier objects from Kültepe I, many of these artefacts can be classed as arsenical coppers, with arsenic varying in quantity from 0.4 to 1.15 per cent. Some objects have also been alloyed with nickel and zinc, which, associated with examples of Chaff-Faced and Halaf wares, led to the assumption that metallurgy was introduced into the Caucasus.¹⁷⁵ In recent years, however, the thinking has changed, owing to the discovery of several nickel-bearing copper deposits in the Caucasus.¹⁷⁶

¹⁷² Kiguradze and Sagona 2003: fig. 3.12; Hamlin 1975: fig. 8: A, C, D, and pls Ic and II.

¹⁷³ Miron and Orthmann 1995: 318.

¹⁷⁴ Museibli 2014c.

¹⁷⁵ Kavtaradze 1999: 72.

¹⁷⁶ Courcier 2007: 204.

But it is Mentesh's well-developed metallurgy – tools were hardly ever made from bone – that is particularly noteworthy. Many of the ninety-two metal artefacts from the site were recovered from the Chalcolithic levels, which provide evidence for the major steps in the process from ore to item.¹⁷⁷ Ores were locally mined and worked on-site (cast, cold-hammered and annealed) mostly into copper awls that chemical analyses demonstrate had no alloys or had an arsenic component, a common feature of the Caucasus. Whether the arsenic was an intentional additive remains to be seen. Mineral ores were also processed at Leilatepe and Beyuk Kesik where slag, copper oxide and moulds were found.

Stone tools Both flaked stone tools and macrolithics form an important component of the Chalcolithic toolkit. Querns and pestles, particularly common at Mentesh Tepe, were used for a variety of food processing tasks, and possibly also for crushing and pounding mineral ores.¹⁷⁸ Obsidian was the preferred raw material in the earliest Chalcolithic levels at Mentesh (96.5 per cent of the assemblage) and Ovçular (92 per cent), though flint became more popular in later centuries. Tool types are varied and range from blades and bladelets, through retouched flakes and scrapers to denticulates and burins. Interestingly, the assemblage from Ovçular was mostly blade blanks and heterogenous, suggesting that it was a seasonal activity and that some tools were produced off site.¹⁷⁹ At Mentesh Tepe, on the other hand, there is clear evidence of a specialised workshop.

HOUSES AND SETTLEMENTS

Although Soviet archaeologists argued for links with the northern Mesopotamian Chalcolithic, it has only been in recent years that the southern Caucasus has firmly emerged as another important centre of Chaff-Faced pottery. Unlike the north Syrian and Upper Mesopotamian zones, the quantity of Chaff-Faced Ware in the southern Caucasus varies considerably from site to site, in many cases co-existing with other horizons. Furthermore, the quantity of ceramics in the southern Caucasus is never as large as is collected south of the Taurus.

Briefly presented here are the main characteristics of the key sites with Chaff-Faced Ware horizons: Mentesh Tepe in western Azerbaijan; Ovçular Tepe in Nakhichevan; Berikldeebi V in Shida Kartli; Leilatepe, one of several small mounds in the region of Karabag in central Azerbaijan; Böyük Kesik, also one of a cluster of sites, in the Garajazy steppe; Soyuq Bulaq, a cemetery site of at least thirty-five barrows (5–10 m in diameter), not all excavated, in the Akstafa

¹⁷⁷ Courcier 2012.

¹⁷⁸ Lyonnet et al. 2012: 165–6.

¹⁷⁹ Marro et al. 2011: 81–2.

district;¹⁸⁰ and Godedzor in the Vorotan Valley of south-eastern Armenia. Some quantities of Chaff-Faced pottery have been found at Aratashen and Tekhut in Armenia, and more recently at Chobareti in southern Georgia.¹⁸¹

In the Early Chalcolithic, connections with the Neolithic are evident. The community at Mentesh (Period II) built circular dwellings (ca. 2.6–5 m in diameter) furnished with a central hearth.¹⁸² These ties disappeared later on, in Period III, when multi-roomed rectangular structures were the norm. Ovçular Tepesi, a mound of modest proportions (1.3 ha) in the Middle Araxes Valley, in Nakhichevan is another early site.¹⁸³ Its small size belies its importance in understanding the evolution of social and political complexity in the southern Caucasus. The topmost deposits of Ovçular were cleared in recent times, and now the site comprises two phases: an earlier level characterised by sub-rectangular, semi-subterranean structures (Phase I), and a later building level distinguished by multi-roomed mud-brick houses, occasionally supported on stone foundations (Phase II). Radiocarbon readings place them within the period of 4350–4000 BC.

The earliest occupation at the site is most clearly represented by House 1, a structure in Chantier (Area) 1.¹⁸⁴ Although river action has obliterated its northern wall, the house plan and its features are well preserved. The building is sub-rectangular in plan and its walls were built of mud bricks (25 x 50 x 8 cm) or half bricks. Stone terrace walls were constructed to protect the hut. Its interior was furnished with standard fitments – a fireplace, a *pisé* partition wall that presumably separated activity areas, and food processing tools such as a mortar, pestle, and grinding stone. Another building, House 2, is distinguished by a number of circular work areas.¹⁸⁵ These areas were sunk slightly into the floor, coated with mud, and edged by a raised wall.

In the second phase, Late Chalcolithic architecture is rectilinear and multi-roomed. Associated with this level, in Chantier 12, is one of the best-preserved structures, with stone foundations and mud brick walls, and fitted with a hearth (Figure 4.22(4)). In Chantier 13, there is a series of round stone structures, which have been interpreted as silos. According to the excavators, the settlement was most likely occupied on a seasonal basis by a community of herders, a conclusion drawn largely from the relative thinness of the cultural deposits rather than the age/sex ratio of animal bones. Agriculture was introduced towards the end of Phase II, but was never fully embraced. Despite this change in settlement plan, no change was recorded in the Chaff-Faced Ware assemblage from

¹⁸⁰ Narimanov 1987; Akhundov 2007.

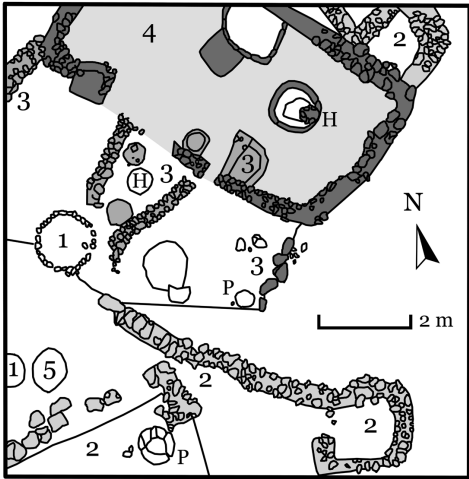
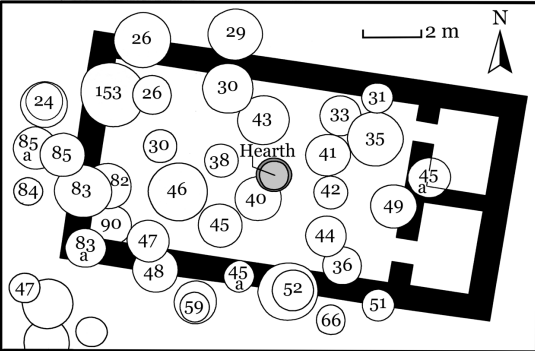
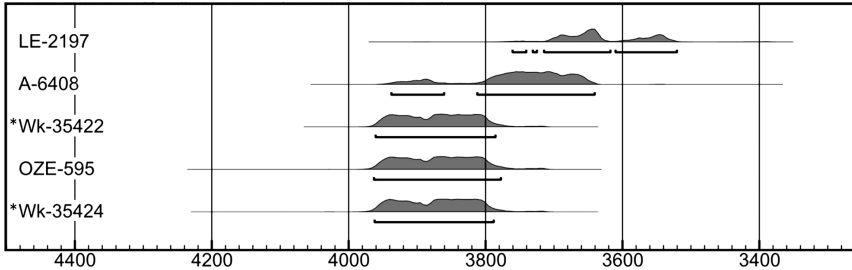
¹⁸¹ Kakhiani et al. 2013.

¹⁸² Lyonnet et al. 2012: 87–91.

¹⁸³ Marro et al. 2009; Marro et al. 2011. See also the Chalcolithic remains at Sadarak (Bakhshalyiev and Seyidov 2013).

¹⁸⁴ Marro et al. 2011: 55–62.

¹⁸⁵ The excavators call these areas ‘dials’. Marro et al. 2009: fig. 5.



- 1 — Kura-Araxes structures
- 2 — Late Calcolithic buildings
- 3 — Late Calcolithic, 2nd building phase
- 4 — Late Calcolithic, 1st building phase
- 5 — Late Calcolithic hut
- H — Hearths
- P — pottery

Figure 4.22. (1) Berikldeebi radiocarbon readings; (2–3) Berikldeebi ‘temple’; (4) Ovçular Tepe Chantier 12 (photograph A. Sagona; drawings after Dshawachischwili 1998; Marro et al. 2011).

one phase to the other. Chapter 5 discusses the ‘Late Chalcolithic Kura-Araxes’ vessels that were found associated with Chaff-Faced vessels.

The site of Berikldeebi, located at the confluence of the Kura and Prone Rivers in Shida Kartli, provides an important northern site of the Chaff-Faced Ware tradition.¹⁸⁶ Of the five cultural periods discerned by Aleksander Dzhavakhishvili, the two lowest concern us here. Period V comprises two building levels (V1, the lowest, and V2) belonging to the Late Chalcolithic period. Above it were the deposits of the early Kura-Araxes culture, Period IV (also subdivided into two – IV1 and IV2). This superimposition makes Berikldeebi a rare and significant site. Four radiocarbon dates, three from Period V1 and one from V2, provide a measure of chronological stability (Figure 4.22(1)).¹⁸⁷ Collectively, they place Period V between 4000 and 3600 cal BC. So far, only one date (LE-2197 4850 ± 50 BP), analysed at the former Leningrad Laboratory, underpins Period IV.¹⁸⁸

A distinctive blackish matrix (termed the ‘Black Layer’ by Dzhavakhishvili) characterised the lower level (V1). Measuring 25–30 cm thick, it differed sharply from the debris above and beneath it. It mostly comprised an ashy deposit laden with organic admixtures, possibly the result of burnt chaff, according to the excavator, and a good amount of small pebbles. In one area of 16 m² were embedded the bones of a human arm and an associated bronze bangle – round, thick wire bent in a half-spiral shape – in a concentration of pebbles. Not far from the pebble feature were two stone tools – a grey flint blade and a red-brown flint scraper. Elsewhere a 15 cm band of pebbles encircled an area approximately 5.5 m in diameter. Although heavily damaged, Dzhavakhishvili suggested the feature represented the remains of a cromlech. Other remnants of the Period V1 settlement consisted of fragments of mud-brick and wattle-and-daub structures, and numerous pits, mostly bell-shaped and filled with debris. Amongst them is Pit 128, one of the largest, measuring 175 cm in diameter and 65 cm in depth.

Berikldeebi Period V2 had quite a different character. A substantial mud-brick wall defined its northern edge, where the knoll on which the settlement is established dips into a gully. This was a fortification wall, according to Dzhavakhishvili, and is likely to have enclosed the settlement. At its widest preserved point, the wall measured 2 m, comprising seven bricks across, with the brick sizes averaging 44 x 20 x 8 cm and 48 x 25 x 8 cm. Although the maximum height preserved is only 1 m, the excavator speculated that its original height could have reached 4 m. Only one entrance into the compound has survived. It was 1 m across and was blocked at a later date. A cobble-based

¹⁸⁶ Dzhavakhishvili 1998; I would like to thank Mindia Jalabadze for giving me access to the Berikldeebi archives and material.

¹⁸⁷ Sagona 2014a, 2014b.

¹⁸⁸ Kavtaradze 1983: 31.

ditch 50 cm wide and 1 m deep that may have served as a type of drainage system defined the outside of the wall. Certain sectors of the inner face of the wall had perpendicular reinforcements that appear to have been built after the wall. Particularly important is a large rectilinear building (Figure 4.22(2–3)), ca. 14.5 x 7.5 m, designated the ‘temple’ by Dzhavakhishvili. The building is orientated east–west and comprises a large open hall and two small rooms at the eastern end. Nothing quite like it has been found in the Caucasus and it has justifiably been designated ‘Mesopotamian-like’, a tag that accords with its associated ceramics.

No less impressive is the well-planned village at Leilatepe where excavations revealed a 2 m cultural deposit comprising eleven building levels.¹⁸⁹ Two standard sizes of mud brick (44 x 21 x 10 cm and 50 x 25 x 8 cm), comparable to those used at Berikldeebi, were neatly laid on a layer of mortar to build a variety of rectangular structures. Bricks came in two colours – grey-brown and yellow – and showed no trace of inclusions. Walls and floors were regularly coated with lime plaster, which concealed the regular use of bricks of both colours. Building 1 has a distinctive plan (Figure 4.23(1)). It is almost square (5.6 x 6.2 m) and comprises eight longitudinal rooms, but there is no sign of a doorway. Its layout plus its fill, which consisted of loose soil rich in organic matter, suggest that its purpose was grain storage. A smaller version of this type of granary is seen in Building 5.

Buildings 2 and 8, on the other hand, represent domestic structures (Figure 4.23(1–2)). They were essentially modules of three rooms: Building 2 comprised three rectangular rooms juxtaposed in a row, whereas Building 2, whose walls were preserved to 70 cm in parts and showed signs of repair, was less precise in its orientation. Craft activities were conducted elsewhere; Buildings 3 and 4, for instance, revealed evidence of metalworking.¹⁹⁰ Large amounts of ash were interspersed with the wastes of metallurgy – slag deposits, crucibles, and the occasional metal object found near the hearth in Building 3. More recently, an even better snapshot of metallurgical activity has been exposed at Akhantepe, where moulds, crucibles, and the occurrence of lead oxide (litharge) has prompted comparisons with sites in central Iran, such as Arisman, suggesting a possible transfer of knowledge from the east.¹⁹¹ Hearths, otherwise, were located outside in the courtyards and represent a type unique to this region. They were round, defined by a ring of lime-plastered clay, and consisted of two layers. The lower level was perforated with a series of circular holes for ventilation. Not enough detail is provided in the field report, but these elements are suggestive of pottery kilns.

¹⁸⁹ Narimanov et al. 2007; Akhundov and Makhmudova 2008; Museibli 2014b.

¹⁹⁰ Museibli 2014c.

¹⁹¹ Akhundov 2014; Stöllner 2016: 214.

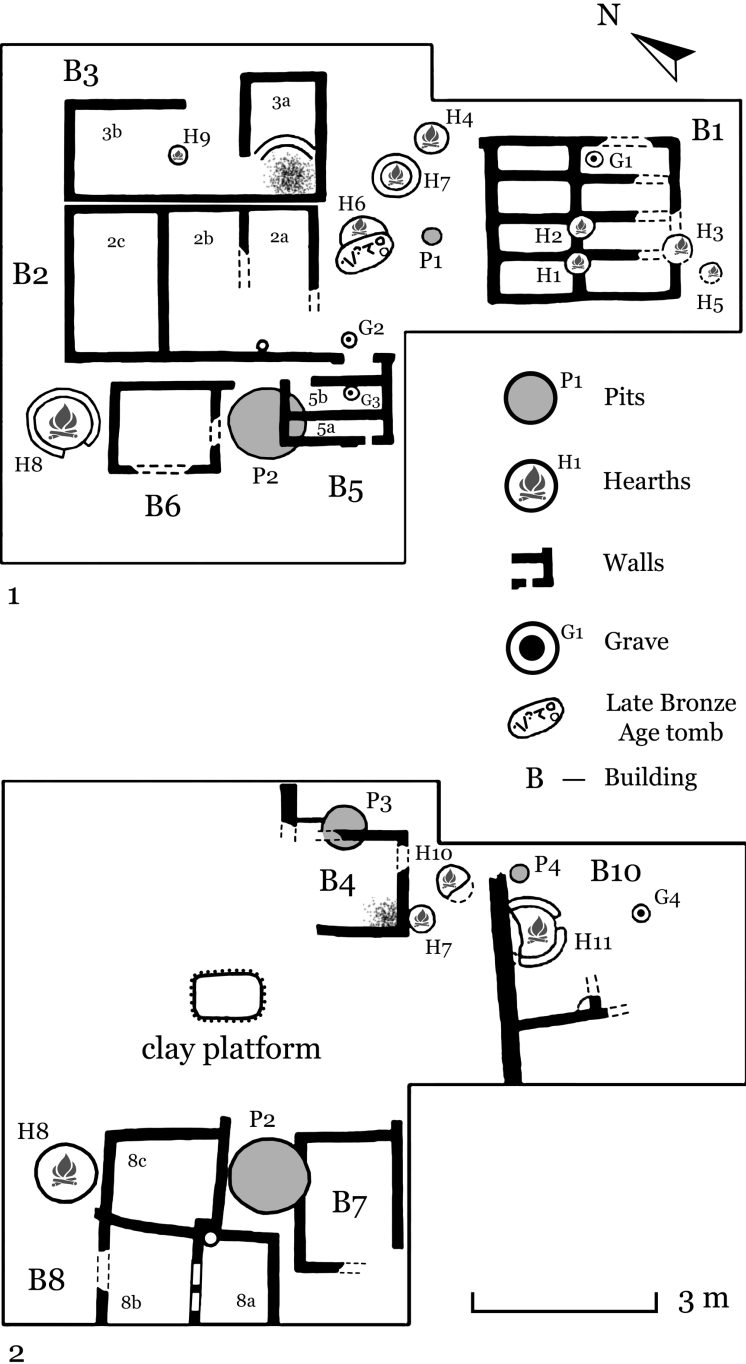


Figure 4.23. Leilatepe: (1) Buildings 1–3, 5–6, second architectural horizon; (2) Buildings 4, 7–8, 10, third architectural horizon (Akhundov 2007; Narimanov et al. 2007).

The narrow corridor of the Baku-Tbilisi-Ceyhan pipeline exposed a number of sites, amongst them Büyük Kesik.¹⁹² Two clusters of architecture 40 m apart were cleared. One consists of a mud-brick building, almost square in plan, with an entrance in the north-west corner. A short pebble path led to the door. The only features inside the room were a circular hearth filled with ash, bones, cereal, and pottery fragments and, on the opposite wall, an oval pit. The other group comprised cell-like structures. Building 2 was clearly circular, but Building 3 had an irregular plan and combined mud brick with wattle-and-daub. Chaff-Faced vessels, some with simple linear potter's marks, complement those at Leilatepe. A small number of them have a striated exterior decorated with a comb. The few pieces with notched rims recall the Sioni tradition, but the lack of grit inclusions reflects hybridity. Two hemispheroid stamp seals with a single horned animal figure engraved on the base, forelegs bent, are redolent of Gawra glyptics (Figure 4.24(1–2)). As at Leilatepe, metallurgy is well attested (Figure 4.24(8)). A stalk-like, female figurine (Figure 4.24(3)) is redolent of Neolithic simplicity. In every other respect, however, the many bone and ceramic implements are fairly standard (Figure 4.24(6,7,15)).

There is no need to detail further Chaff-Faced sequences; suffice to say that we have many and they include those in the Ararat Plain (Aratashen and Tekhut), Vayots Dzor region (Areni-1), Nakhichevan (Kültepe I and Sadarak), western Azerbaijan (Mentesh Tepe), and the Mughan steppe (Alikemek Tepesi). The exceptionally dry conditions of Areni-1 Cave have provided a wealth of evidence on organic remains, including the now famous leather shoe dated between 3653 and 3377 cal BC (Figure 4.25(1)).¹⁹³ Equally significant is the information on foods – both their variety and the heavy exploitation of tree fruits – and wine production. Unearthed were a wine press for crushing grapes, fermentation and storage vessels, and remnants of the vines, grapes, and residues of red wine dating to 4100–4000 BC.¹⁹⁴ The cool dry conditions of the cave would have been very well suited for wine production and storage.

THE TREATMENT OF THE DEAD

Funerary deposits have been recorded as pit graves, infant burials in ceramic jars, and barrow burials.¹⁹⁵ Pit graves usually contained one individual, though up to four has been reported. In most instances the deceased was laid in a flexed position with no preference as to side. Tomb 2 from Godedzor, a late burial that two radiocarbon readings suggest most likely belongs to the late fourth millennium BC, is an exception. There, a female (older than 40 years of

¹⁹² Museyibli 2007.

¹⁹³ Areshian et al. 2012; Wilkinson et al. 2012.

¹⁹⁴ Barnard et al. 2011. This discovery of malvidin, a chemical that is responsible for the wine's red colour, is strong evidence in support of this claim. According to McGovern (in Owen 2011), however, because malvidin is also found in other fruits, such as pomegranates, the presence of tartaric acid would substantiate the discovery.

¹⁹⁵ Poulmarc'h 2014a; Poulmarc'h and Le Mort 2015.

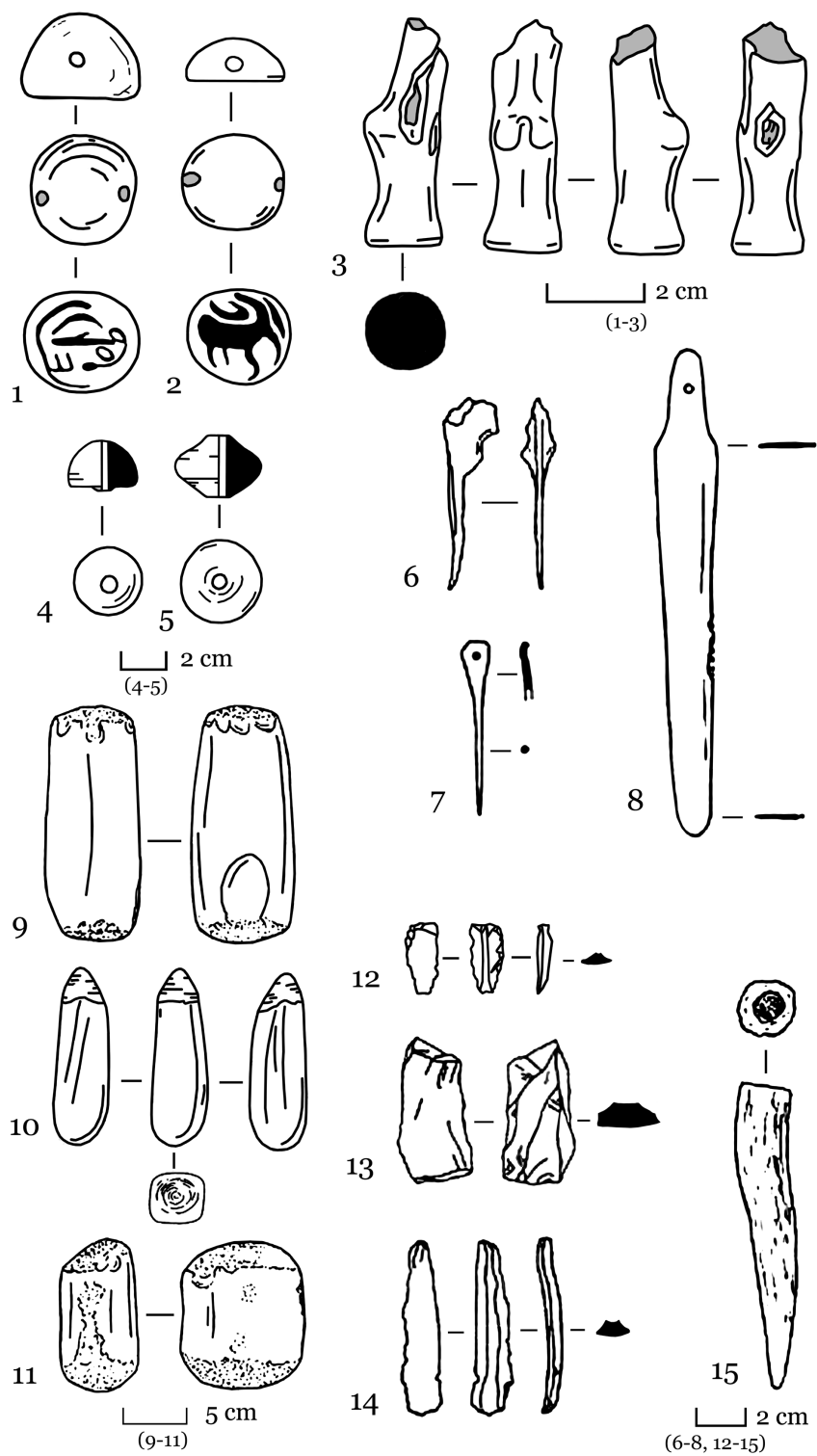


Figure 4.24. Late Chalcolithic select objects: (1-8, 10) Böyük Kesik; (9, 11, 15) Leilatepe; (12-14) Agyly Depe (after Narimanov et al. 2007).

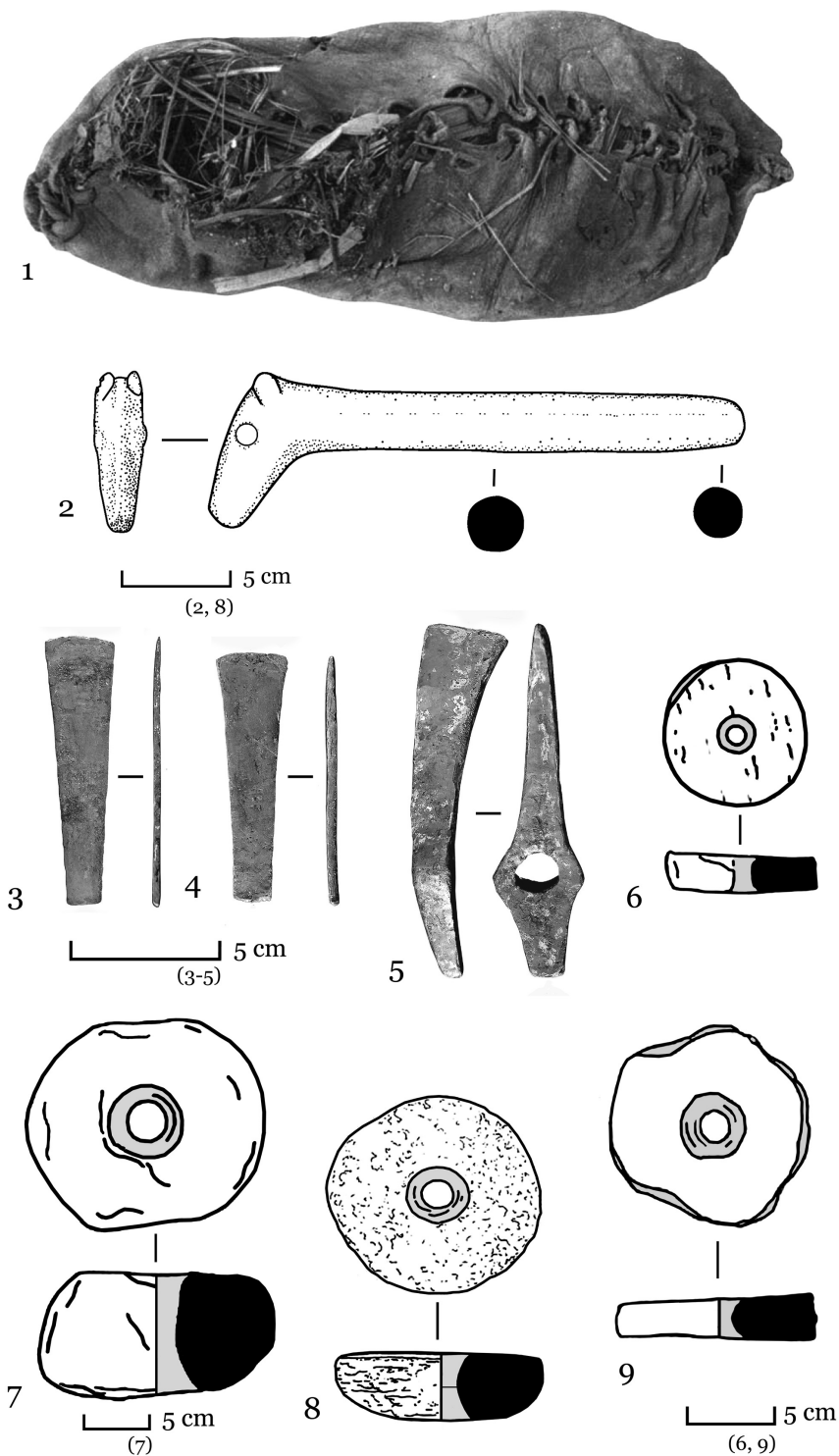


Figure 4.25. Late Chalcolithic select objects: **(1)** Areni-1 leather shoe (courtesy B. Gasparyan); **(2)** Soyuq Bulaq stone sceptre (after Lyonnet et al. 2008); **(3–5)** Ovçular Tepe, Copper axes (courtesy C. Marro); perforated ceramic and stone discs: **(6, 8–9)** Böyük Kesik; **(7)**, Leilatepe (after Narimanov et al. 2007).

age) was laid on her back in a tightly contracted position with her legs bent abruptly to the left.

At Ovçular Tepe, in Nakhichevan, two jar burials contained rather special provisions. Three copper axes (Figure 4.25(3–5)) were placed in one, while two copper rings and a white pearl were deposited in the other.¹⁹⁶ Both burials reflect the beginnings of the concept of ‘sacrificial’ metals – the disposal of wealth, perhaps to accord and strengthen status, which will be discussed in Chapter 10. Infants were often interred in ceramic containers. Four other infant burials were found at Leilatepe, placed in a flexed position in coarse ceramic vessels – either a wide-mouthed bowl, or a tall jar on its side. The vessels were sealed with a large pottery fragment. Single burials were the norm, though Leilatepe Burial 2 had the remains of two infants. The published plan suggests that each of the two storage areas had a burial beneath their floor. Infant burials were also found at Böyük Kesik. Burials 1–4 were similar to those at Leilatepe – bowl and jar inhumations – but Burial 5 was different: a cluster of disarticulated bones covered by a large bowl is indicative of a secondary burial. These infant jar burials draw on a tradition well known in Upper Mesopotamia, as is seen at Tepe Gawra and other sites.¹⁹⁷

Mention should be made of Chobareti, a well-dated terrace site in the Akhaltsikhe region of Georgia, discussed in Chapter 5.¹⁹⁸ In the late prehistoric period, Chobareti was an early Kura-Araxes site, but an infant jar burial (Burial 9) found below the floor of a large Kura-Araxes building (Structure 4) – burial in jars was not a Kura-Araxes custom – and a scatter of chaff-tempered sherds suggest lingering Late Chalcolithic traditions. Presently, radiocarbon samples place the earliest level at Chobareti within the period 3300–3000 cal BC.

Communities in the southern Caucasus began to bury their dead in barrows, which as we have seen, are amongst the earliest in the Caucasus. They are prominent at Soyuq Bulaq, with other examples from Seyidli, and Kavtiskhevi in Shida Kartli.¹⁹⁹ Collectively, these earliest tumuli from the southern Caucasus represent a nexus of local and foreign traditions: Chaff-Faced Ware mixed with fragments of Sioni ceramics, lapis lazuli, and carnelian from central Asia, and a stone sceptre that would be at home within the Maikop assemblage (Figure 4.25(2)). Twenty-seven barrow burials have been excavated at Soyuq Bulaq, with the majority investigated during the Baku-Tbilisi-Ceylan pipeline salvage operations. Of these, Nacef Museibli excavated twenty-one burials in 2005 and 2009, while six were excavated as part of an Azerbaijani-French

¹⁹⁶ Marro et al. 2011: 70, photo 14.

¹⁹⁷ Peasnell 2002: fig. A.6.

¹⁹⁸ Kakhiani et al. 2013.

¹⁹⁹ For Soyuq Bulaq, see Akhundov 2007, Lyonnet and Guliyev 2010, Museibli 2014a; for Kavtiskhevi there is Makharadze 2007.

project in 2006.²⁰⁰ Diversity characterises the Soyuq Bulaq barrows: diameter size varied from 5 to 15 m and their height rarely exceeded 1 m; their burial chambers were either built on the surface or dug into the ground.²⁰¹ The latter type was generally rectangular or horseshoe-shaped, and they were either simple pits, or built of mud bricks, following north Mesopotamian tradition. Certain graves were encircled with a band of riverine stones, or by a ditch that contained an ashy mixture, perhaps indicating there was once a wooden wall around the chamber.

Barrow 1, excavated by an Azerbaijani-French team during salvage operations, is both complex and rich in finds. A stone rectangular enclosure was built above an earthen pit that was lined with mud bricks, bonded with a yellow mortar (Figure 4.26).²⁰² The distribution of small pebbles in the base of the pit is possibly indicative of a wooden roof that was covered with pebbles. A single adult skeleton, badly preserved, was found in the pit. Barrow 3, another mound excavated by this project, is distinctive for the four mounds that were encircled by a ring of stones and covered by a single mound (Figure 4.27(1)).

It is somewhat confusing that both projects that worked at Soyuq Bulaq started their numbering sequence with 'Barrow 1'. The other Soyuq Bulaq Barrow 1, excavated by Museibli, had an adult burial. Badly preserved, the individual had been placed in a pit tomb, rectangular in shape (3 x 2.2 m) and situated at the centre of a barrow 8 m in diameter, which was also totally destroyed (Figure 4.27(5)). The pit had a mud-brick bench, three courses high, which ran along all four walls, but did not connect, thereby forming a niche. Three cup-shaped pits were aligned in the niche, and along the opposite wall were two handmade pots – one placed in a corner and surrounded by stones. A thick layer of ash and charcoal covering the content of the tomb suggests that it was roofed with timber. Different chambers were uncovered elsewhere on the site. Beneath the mound of Barrow 3 was a horseshoe-shaped tomb, while Barrow 18 was rectangular and divided into two chambers. Both chambers were built with river pebbles, surrounded by a circular scatter of stone (a cromlech) and sealed by a low mound. Pottery vessels were again the main grave goods, this time associated with a handful of expedient stone tools.

Kavtiskhevi, situated in Georgia, had different features. It was a low-lying earthen mound (1.5 m in height) with a diameter of 25 m, defined around the circumference by a 3 m wide ring of stones. Importantly, it appears that the ring was completed in two stages. Originally, the barrow had a south-eastern

²⁰⁰ Lyonnet et al. 2008. There appears to be some confusion over the exact number of barrows excavated by the Azerbaijan-French project with Museibli (2014a: 32–3) claiming that Kurgan 3 was, in fact, a cluster of four small kurgans whose mounds had eroded and merged together over time. The publish plan does look like four circular burial chambers delineated by stones.

²⁰¹ Museibli 2014a: 38–9.

²⁰² Lyonnet et al. 2008.

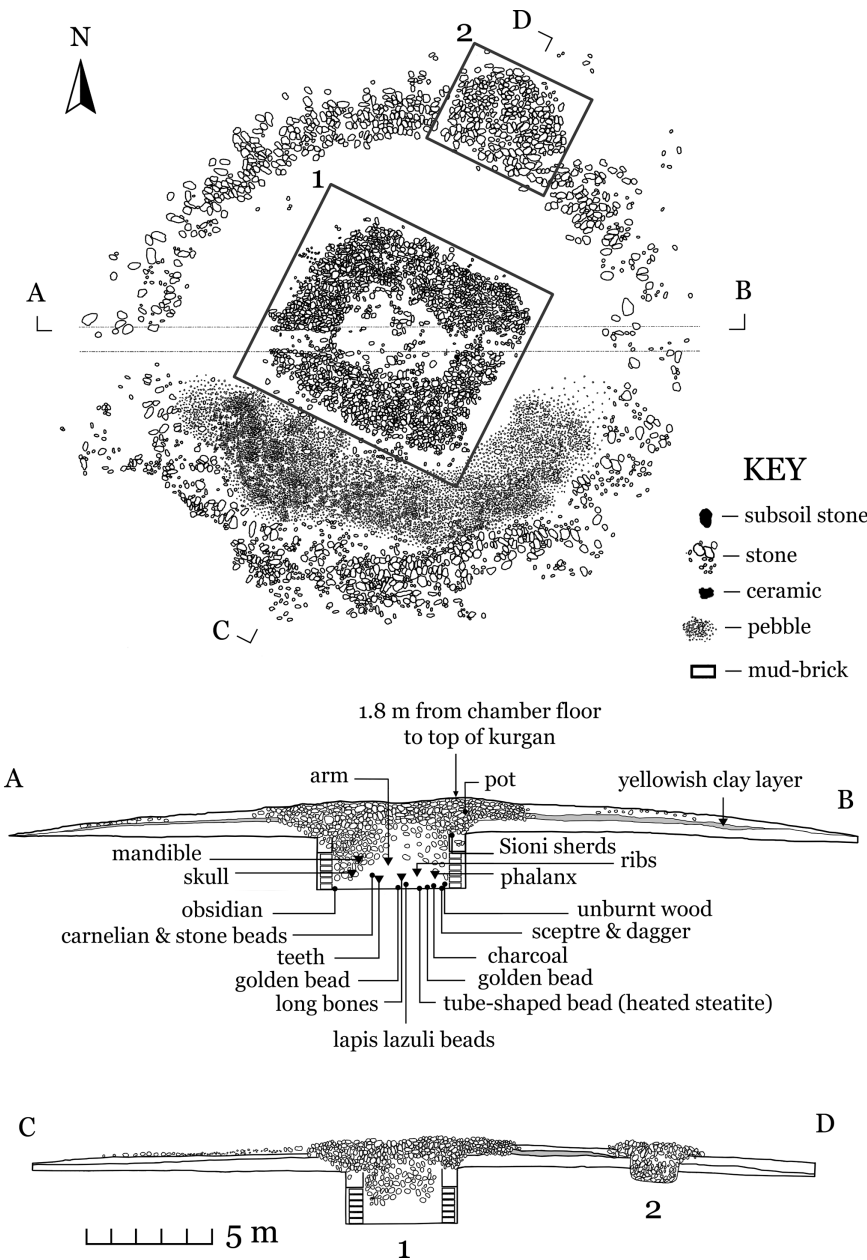


Figure 4.26. Soyuq Bulaq, Barrow 1 excavated by the Azerbaijani-French team (after Lyonnet et al. 2008).

entrance. It was eventually sealed and the ring was closed once access to the tomb was no longer required. The mound's cross-section shows that it was purposely built up with layers of yellow and black earth, similar to the practice adopted at certain Maikop sites. At the centre of the mound was a square stone cist tomb (ca. 4.5 x 4.5 m) with walls 1 m thick. It had an earthen floor and was originally roofed with wooden logs sealed with a layer of stones. Along

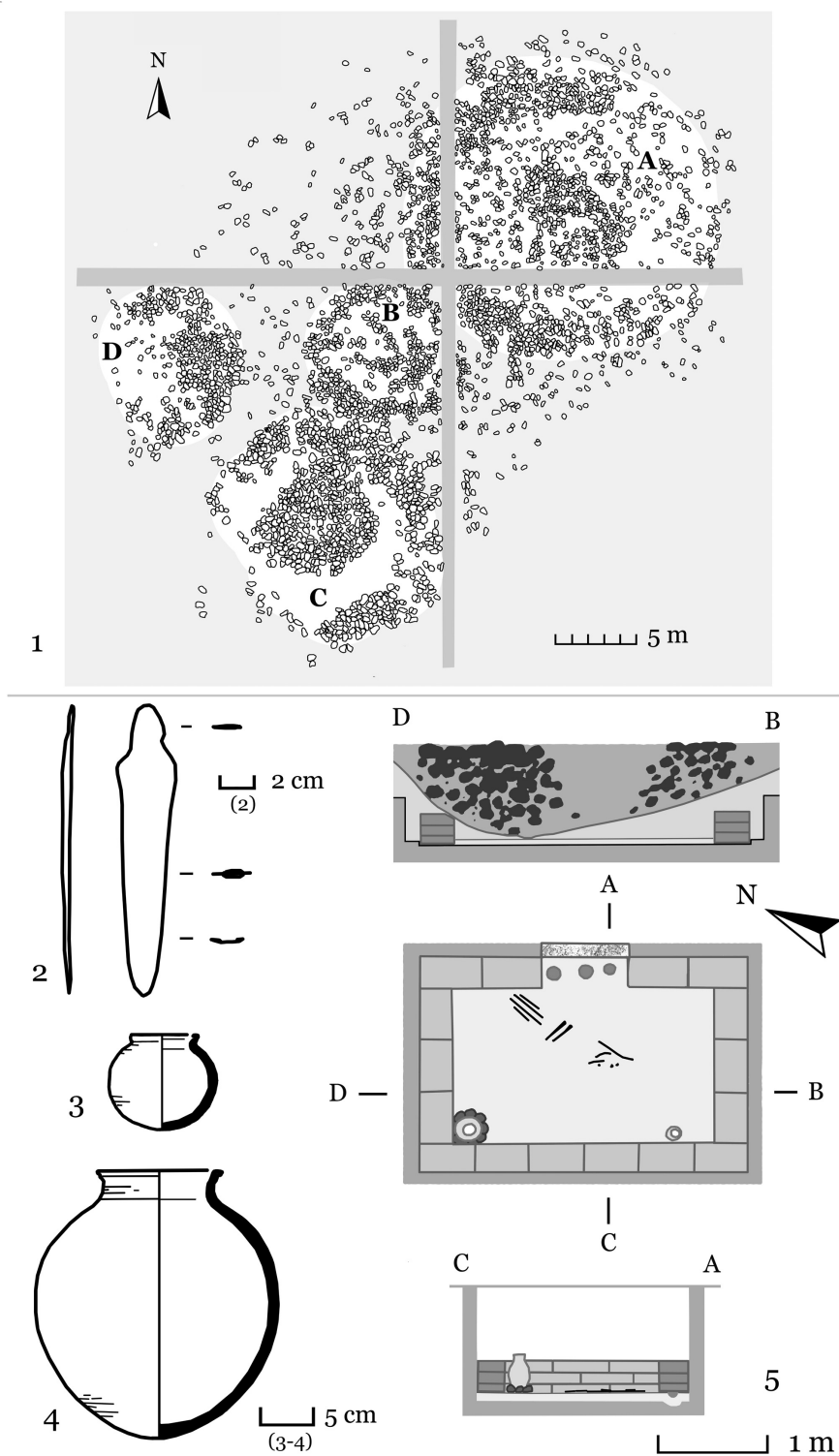


Figure 4.27. Soyuq Bulaq: **(1)** Soyuq Bulaq, Barrow 3 excavated by the Azerbaijani-French team (after Lyonnet et al. 2008); **(2–5)** Soyuq Bulaq, Barrow 1, excavated by N. Museibli (after Museibli 2014a).

the northern edge of the mound a pottery container was placed on a circular clay platform (1.2m in diameter) that was itself buried beneath a small mound of earth.

The Sioni Tradition (*ca. 4800/4600–3200 BC*)

Sioni, the eponymous site, is situated on the northern outskirts of the village. The small river Khudistskali provided the ancient community with ample fresh water. Some fifty sites have reported finds said to belong to the Sioni tradition, but given the confusion over the term Sioni, it is difficult to quantify its extent at this stage. Tamaz Kiguradze and Medea Menabde investigated Sioni in the 1970s and uncovered an extensive assemblage of material, still largely unpublished.²⁰³ For the most part sites are characterised by flat settlements with relatively thin occupational deposits rarely exceeding 50 cm in depth, fugitive architectural remains often disturbed by later activities, and a number of straight-sided or bell-shaped pits without any plaster coating. Architecture generally had a stone base, though the many postholes and wattle-and-daub fragments recovered from Delisi suggest variant building traditions were used.

The extent of Sioni influence can be roughly charted by the distribution of its pottery, which is distinguished by ornamented rims and slipped surfaces. These ceramics have been found in the central Caucasus, including Tsopi, Arukhlo VI, Javakhi and Nachivchavebi in Kvemo Kartli; Alazani I and II, Alazani III (Kviriastskali), Goranamosakhlari 3, and Damsvari Gora in Kakheti; Abanoskhevi, Bodorna, and Khertvisi in Shida Kartli; and Aratashen in Armenia (Figure 4.2).²⁰⁴ Sioni presence has long been known in Azerbaijan, most notably at Alikemek Tepesi, Leilatepe, and Ilanli Tepe, but in recent years our evidence has been augmented considerably by discoveries made in western Azerbaijan, at Mentesh Tepe, and at Ovçular Tepe in Nakhichevan.²⁰⁵

²⁰³ Menabde and Kiguradze 1981. Belinda Shapardon, a PhD candidate at the University of Melbourne, is currently working on the Sioni material for her dissertation. I wish to thank her for sharing some of her findings. For the view that Sioni belongs to the Neolithic period, a view no longer tenable owing to the recent radiocarbon dates, see Nebieridze 2010: 155–63.

²⁰⁴ Kushnareva and Chubinishvili 1970: 28–32; Nebieridze 2010 (Tsopi); Gogelia and Chelidze 1992: 59–62 (Javakhi); Chikovani et al. 2010 (Nachivchavebi); Varazashvili 1992 (the Kakheti sites); Chikovani 1999 (Shida Kartli); Palumbi et al. 2014 (Aratashen). Earlier discussions (Kiguradze 2000; Kiguradze and Sagona 2003) suggested that Berikldeebi had Sioni ceramics, but based on my recent first-hand familiarity with the Berikldeebi material this appears not to be the case.

²⁰⁵ Lyonnet and Guliyev 2010; Marro et al. 2009, 2011.

Emerging evidence points to a possible new cultural phase in the fifth millennium BC, somewhere between the Shulaveri-Shomutepe culture and Leilatepe. Decorative patterns on ceramic vessels connect Mentesh with Sioni (combed exteriors) and Alikemek Tepesi (applied patterns and painted designs executed in bitumen). Field surveys and excavations outside the Caucasus have extended the spatial boundaries of the Sioni horizon. Material has been reported in the Ağrı district of eastern Turkey, especially at Hanago, Sarıgül, and Çetenli, and at Kohne Pasgah Tepesi, in the Koda Afarin Valley of north-western Iran.²⁰⁶ Although the hallmark lip-decorated vessels were not found at Sos Höyük, orange Sioni-like material comprises the smallest ceramic category in Period VA (3500–3100 cal BC); the sherds were carefully laid to construct a floor fitted with a circular hearth.²⁰⁷

SETTLEMENTS AND SUBSISTENCE

The most distinctive development of the early phase of the Chalcolithic in the southern Caucasus is the move away from the alluvial plain into the foothills, where communities were able to exploit a different range of resources and pastures.²⁰⁸ Communities settled over a much wider area and in more diverse ecological zones than had the earliest farmers. Settlements began to spread upland to altitudes of 500 m asl in the southern Caucasus and much higher (1,500 m) in the northern Caucasus (Figure 4.2). Villagers raised sheep, goats, cattle, and even pigs, and began to utilise the thin podzolised soils of the foothills and mountains that are most suited to grazing. Whereas the presence of pigs argues against a nomadic lifestyle, it remains to be seen whether these communities incorporated transhumance into their subsistence economy. Certainly the range of altitudes suggests that human groups in this period occupied different environmental zones, but whether they copied the seasonal movements of the animals on which they relied for food will require more meaningful analyses of faunal remains than is currently available.

The Chalcolithic settlement at Sioni is pitted by seventy burials of the Middle and Late Bronze Age, and the medieval period. The thickest cultural deposit, situated near the river bank, measures no more than 1 m, and it gradually petered out towards the north, as the low-lying knoll on which the site was established gradually rose. Pits are the most characteristic feature of the settlement, with floors exposed only in fragmentary patches. A segment of a large circular stone structure (Building 1) was unexpected, and its purpose remains unclear (Figure 4.28(13)).²⁰⁹ The curvature of the wall indicates that the original structure was about 10–12 m in diameter. The wall measured

²⁰⁶ For Ağrı, see Marro and Özfiat 2005; Marro 2008; Özfiat 2009b: fig. 13: 1, and for north-western Iran, see Maziar 2010, 2015.

²⁰⁷ Sagona and Sagona 2000: 59–60.

²⁰⁸ Kiguradze 2000.

²⁰⁹ Menabde and Kiguradze 1981: fig. 1.

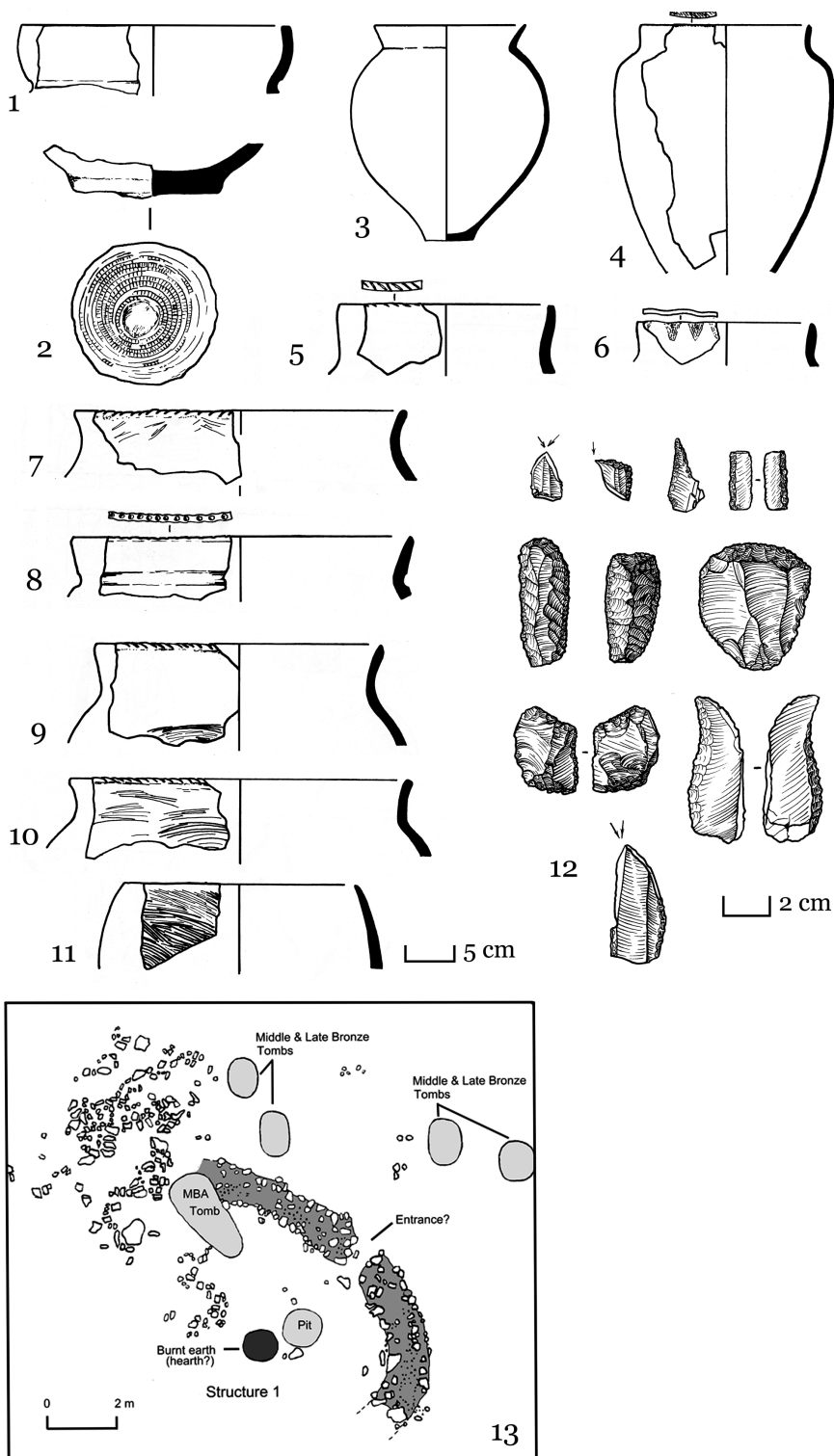


Figure 4.28. Sioni horizon: (1–12) A selection of Sioni ceramics and stone tools (after Kiguradze and Sagona 2003); (13) Sioni, plan of the wall (after Menabde and Kiguradze 1981).

OxCal v4.2.2 Bronk Ramsey (2013);r:5 Atmospheric data from Reimer et al. (2009)

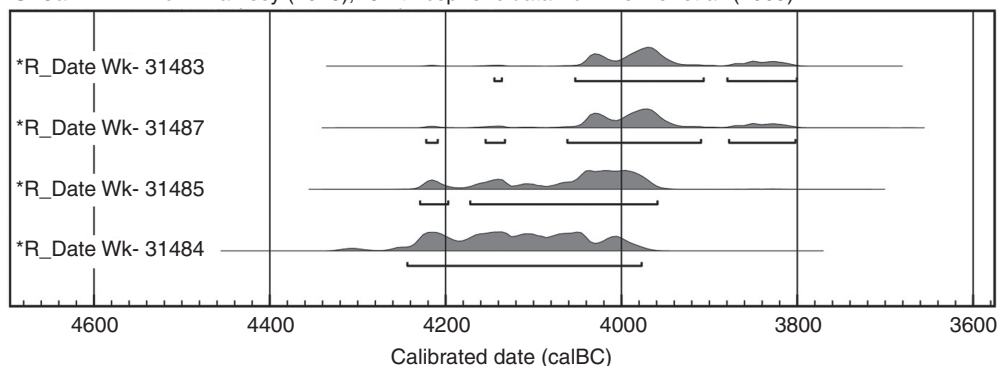


Figure 4.29. Sioni, radiocarbon dates.

about 1 m in width. It was faced with large field-stones and filled with rubble; no mortar was used. To enter the building, one had to step over a stone threshold down onto a beaten and lime-plastered floor, slightly lower than the ground surface outside.

Two floor phases were detected. In both cases the plan was the same. A burned patch in the centre of the structure indicated the position of the hearth.²¹⁰ Immediately to its north was a circular pit, 2.3 m in depth and sealed with stones. Its deposition appears structured: at the base were pottery sherds superimposed by a bull's skull, which in turn was sealed by a layer of stones. Another curved wall (Structure 2) was uncovered in another part of the site. Although it was badly disturbed by the later burials and modern farming activities, the massive and carefully placed stones that defined its edges were clearly discernable. At its eastern end, the structure had a partition wall, which formed a rectilinear room. Even so, it is not possible to determine the function of the building. Other smaller wall sections were encountered across the site, which might also have had a perimeter wall, though it was too fragmentary to be sure. Four animal bone samples have provided new and invaluable absolute dates for the settlement. They straddle the end of the fifth and beginning of the fourth millennia (Figure 4.29).²¹¹

Although animal bones were collected from Sioni, they have yet to be studied. Indeed we know precious little about the subsistence of Sioni communities. Analysis of the Nachivchavebi faunal remains deposited in the pits indicate that 35–40 per cent belonged to wild animals – ox (*Bos primigenius*), wild horse (*Equus caballus fossilis*), Caucasian boar (*Sus scrofa ottila*), Caucasian pig (*Alces*

²¹⁰ Menabde and Kiguradze 1981: 10.

²¹¹ I would like to thank Medea Menabde for providing me with these samples and the Waikato Radiocarbon Laboratory for the analysis.

alces caucasicus), and deer (*Cervus elaphus maral*).²¹² Sioni communities did not generally hunt wild oxen, though their bones have been found at Damstvari Gora and Abanoskhevi.²¹³ At Nachivchavebi, the villagers kept sheep, goats, pigs, and cattle, and cultivated various cereals – soft wheat (*Triticum aestivum* L.), emmer wheat (*Triticum dicocum* Schübl.), hulled barley (*Hordeum vulgare* L.), and millet (*Panicum miliaceum* L.).

SIONI CULTURAL TRADITION

Ceramics Technologically, Sioni ceramics show some significant changes when compared to the earlier Neolithic vessels. Although both traditions were built by hand, Sioni ceramics are more refined in terms of both style and overall treatment. Their fabric is varied. In the Early Chalcolithic (lower deposits), vessels were generally slipped and baked quite hard. They range in colour from pale browns through reds to yellows. A distinguishing trait is the micaceous quality of the clay, especially noticeable amongst vessels at the site of Sioni, where potters worked with clay deposits naturally rich in silver and golden mica. Pottery of this period is also gritty to the touch.

No petrological analyses have been carried out on Sioni ceramics, but a macroscopic examination suggests sandy mixtures, quartz particles (both rounded and angular), and crushed obsidian were added as inclusions.²¹⁴ Chaff and grog were also used, but were not as popular and were mostly restricted to the Late Chalcolithic period, indicating that temper might reflect a chronological division. With further analysis, the distribution of inclusions might define individual workshops. On present evidence, grog is restricted to the Tbilisi environs, occurring at Delisi, Trelis, and Grmakhevisavi, whereas chaff-tempered pottery has been found in central (Tsopi, Trelis, and Grmakhevisavi) and southern (Tekhut and Alikemek) Caucasia. In some instances, it is clear that potters experiment with fabric. At Sioni, some sherds of the late period are mixed tempered (chaff and grit), a trait that it shares with sites such as Hanago in eastern Anatolia. To judge by the tiny voids, the chaff inclusions are finely chopped at Sioni.

Sioni pottery has relatively few forms and a limited range of ornamentation (Figure 4.28(2–11)). Vessels were built by hand using either coils or slabs of clay. Their fabric is hard and granular with few voids.²¹⁵ Sometimes sherds

²¹² Chikovani et al. 2010: 97.

²¹³ Varazashvili 1992: 98.

²¹⁴ Palumbi et al. 2014.

²¹⁵ Kushnareva and Chubinishvili (1970: pl. 9) suggested that certain vessels from Tsopi were wheel made, but personal examination suggests otherwise. Their thick walls and patchy 'striations' (most likely wipe marks) on the rim argue against wheel manufacture.

of ceramic containers built from slabs that were not firmly pressed together can fracture at the core, revealing textile impressions sandwiched between two layers of clay. These impressions suggest that certain pieces were either manufactured around a mould covered in cloth, or more likely that slabs of clay were laid out on a mat base before being shaped. Other vessels have mat-impressed bases (Figure 4.28(2)).

The range of shapes is restricted and undistinguished: ovoid-bodied jars with a short neck attached to a high shoulder, holemouth jars (a carryover from the Neolithic) and hemispherical bowls constitute the most common forms. When chaff was introduced in the late phase, it coincided with a slight increase in variants of these forms. The decorativeness of rims, on the other hand, is quite striking: oblique incisions that occasionally extend down over the interior and exterior; oblique combed impressions; circular impressions on the top of the lip; serrated edges; and an unusual pie crust rim that is wavy when viewed from the top. Apart from decorative rims, Sioni pottery is not elaborately ornamented. A few vessels bear single knobs or ledges of varying sizes attached to the rim that may have also functioned as handles. Surfaces are usually burnished or smoothed and hardly ever left plain. In many cases, the exterior surface is combed with a haphazard series of incised lines that suggest flint-scraping. The purpose of this treatment is not so much a form of ornamentation as a means of smoothing the lumpy surface.

In the southern Caucasus, close parallels with the Sioni repertoire can be drawn with ceramics from Tsiteli Sopeli and Jinvali, where potters impressed and incised the lips of vessels. Alazani III (Kviriatskali) has similar pieces, as well as a series of novel elements – perforations around the rim, solid knobs, tab handles, small loop handles linking neck to shoulder, and a finger-impressed relief band around the body. The Tsopi and Grmakhevistavi repertoires are particularly important. Their chaff-tempered fabric clearly places them within the Late Chalcolithic period, yet serrated and incised lips, solid knobs, and perforations placed below the rim clearly suggest continuity with the Early Chalcolithic. Indeed, this type of hybridity can be found at several transition points in south Caucasian late prehistory.

CHIPPED STONE TOOLS AND OTHER TECHNOLOGIES

Most of the chipped stone tools were manufactured from obsidian, except in the Mugan Valley (for example, Alikemek Tepesi). The site of Sioni has a rich lithic industry. Of the 1,253 fragments collected, about 94 per cent were obsidian; the rest were manufactured from flint, basalt, chalcedony, and argillite.²¹⁶

²¹⁶ Menabde and Kiguradze 1981: 18, table 1. For a different interpretation on the chronology and cultural affiliations of the Sioni tradition, see Nebieridze 2010.

Although no precise quantitative analyses have been carried out on lithics, the broad trend indicates that there was a move from an assemblage with some retouched blades in the early phases to one that was overwhelmingly flakes. Delisi, on the other hand, is represented by an amorphous flake tradition. The general impression of the stone-tool assemblage from Sioni is one of an expedient tradition in which cores were almost fully reduced with some signs of rejuvenation.

Owing to the lack of clear settlement plans it is not possible to determine where the reduction sequences (*chaîne opératoire*) took place at Sioni. Just under half of the assemblage comprised debitage – chips and flakes, about half of which show traces of retouch and are worn out. Straight-sided blades were either used as knives or modified to produce burins, scrapers, and chippings or *pièces écaillées* (Figure 4.28(12–19)). Of the 100 or so blades, half are well retouched or partly retouched, a practice that either blunted or sharpened the edges. Only a few blades were backed, mostly for use as sickles. Importantly, only one microlith has been reported.²¹⁷ A small number of the formal pieces in the early period, knives and scrapers in particular, display fish-scale pressure flaking over most of their backs. A number of scraper types, some fashioned from flint, are represented – such as end scrapers with ovoid, oblique or straight working edges. Another sub-group has been defined by its squamous (fish-scale) retouch on the back. Other rare types include the trapeze-shaped tool with retouched longitudinal edges and a pressure-flaked upper surface and a denticulate blade.

Edge-ground axes (only one fragment was found at Sioni), saddle querns and mortars are amongst the basalt ground-stone objects, which are not as plentiful as in the Neolithic farming communities. Likewise, the bone industry is nowhere as refined and diverse as the Neolithic repertoire. Nor are bone tools plentiful. At the site of Sioni, only five bone tools were found.²¹⁸ Typically, the Sioni horizon is represented by awls and spatulae, and some spindle whorls. Picks and shaft-holed hoes were produced from antler, and from Sioni and Dantsvari Gora comes a chopper fashioned from the shoulder blade of cattle, whereas Nachivchavebi yielded a horn tool from its burial. At Alikemek Tepe, excavators found numerous circular beads made from shell (150 from one pit in Horizon 1) and pendants from perforated teeth; about twenty perforated mother of pearl shell pendants were found at Sioni.²¹⁹ A few stone beads, including carnelian and turquoise, and a copper bead were also found.

²¹⁷ Menabde and Kiguradze 1981: 18. For a different view on the quantity of microliths, see Nebieridze (2010: 157), who is of the view more were found than has been reported.

²¹⁸ Menabde and Kiguradze 1981: 26.

²¹⁹ Menabde and Kiguradze 1981: 26.

CONCLUSIONS

So how can we explain this mix and interplay of Chalcolithic traditions that stretched from the northern Caucasus to the Syro-Mesopotamian foothills? We have three distinctly recognisable traditions – Maikop, Chaff-Faced Ware, and Sioni – emphasising the multicultural character of this period. Although their geographical borders were fluid and porous, they can nonetheless be associated with distinct cultural provinces. Maikop spreads across the Kuban region of the north Caucasian piedmont, while in the southern part of south Caucasia we find a concentration of Chaff-Faced Ware and the Ubaid-related tradition. The Sioni assemblage is at home in the central region of south Caucasia and along the middle Araxes Valley.

The most striking characteristic in both regions is the emergence of social inequality. In the northern region it is represented by the material wealth of the Maikop barrows. Copious quantities of precious metal items and semi-precious stones point to an authority that had the clout to access distant resources reaching from Mesopotamia to central Asia. Even mundane items like pottery point to connections further south, though the Maikop potters adapted the elements of the Chaff-Faced horizon. In the late phase, the Novosvobodnaia, when megalithic structures were used as burial architecture, cultural interaction extended north to the steppe region. That interplay occurred is beyond doubt; what remains to be determined is its nature and scale.

Communities in the southern Caucasus shared traits with their northern neighbours, also embracing a fledgling elite ideology, but on the whole took new social and economic trajectories at the beginning of the fifth millennium BC. The consumption of metals, for instance, did not develop uniformly, with the first half of the fourth millennium showing a much greater appetite for metalworking than did the second half of that millennium.²²⁰ Only in the third millennium did communities truly engage with metallurgy once more.

The cellular villages of the Neolithic, clustered on the low-lying plains, gave way to small settlements dispersed over a much wider area and at a range of altitudes. These Early Chalcolithic villages, represented largely by pits and the occasional semi-dugout dwelling, could be interpreted as more temporary in nature than their predecessors, though we need to be cautious, given the lack of detailed information on their economy. While their subsistence strategies appear to have been predominately pastoral, with a large complement of hunted animals suggesting a degree of risk management, we nonetheless have

²²⁰ Stöllner 2016.

emerging evidence that the Sioni communities were farmers, too. That sites are now spread over a diverse range of environments may also reflect the way communities dealt with risk in an unpredictable but potentially productive environment. It now seems that communities had to travel further than before to access resources.

By the Late Chalcolithic, agricultural communities with well-planned villages comprised of multi-roomed buildings spread across much of southern Caucasia. Links to northern Mesopotamia are apparent in on several levels. In addition to architecture, in particular the temple at Berikldeebi, southern connections are attested at the settlement of Böyük Kesik, in the kurgans at Soyuq Bulaq in Azerbaijan, which show a ritual of exposure of the dead, in infant jar burials, and in the pre-Kura-Araxes kurgan at Kavitskhevi. These Chalcolithic connections between Mesopotamia and the Caucasus have been explained as either ‘pre-Uruk’ colonisation, or as the tangible remains of a trading network.²²¹

Within the cultural mix of northern and southern Caucasus there was a degree of hybridity. Whereas each tradition has its own distinctive traits, there is also evidence that these traditions influenced each other to a degree. The Chaff-Faced tradition of the southern Caucasus, for instance, is undeniably linked to that in Upper Mesopotamia, but it is not a slavish replica. Instead, the varying economic systems that differentiated the Caucasus from Mesopotamia, and the influences of the Late Sioni and early Kura-Araxes (Chapter 5) traditions, gave the Chaff-Faced tradition of the southern Caucasia its own character. Even so, we can now delineate a Chaff-Faced cultural province (an *oikoumene*) stretching across the highlands east of the Euphrates and incorporating the northern stretches of Mesopotamia.

Another instance of the mixing of elements is the late example of Sioni pottery, normally with a gritty fabric, which by the mid-fourth millennium BC included a good amount of chaff temper. In addition, some sites have clear evidence of co-existence, and the degree of representation of one or more traditions is generally determined by geographical location. In the southern part of Caucasia, for instance, Chaff-Faced Ware is the main tradition, although it is often found in association with Sioni ceramics. A view that is gaining traction places these cultural interactions within a network of metal trafficking. Just as obsidian was probably the primary resource exploited in Halaf and early Ubaid periods, the quest for metal ores appears to have fuelled this new wave of interconnections.²²² South-eastern Europe

²²¹ For colonisation see, Akhundov 2007; Andreeva 1977; the other view is expressed by Lyonnet 2007a; Marro 2008.

²²² Muhly 2011: 861–6.

petered out as a metallurgical centre around the end of the fifth millennium BC, a few centuries before the emergence of the Kuban region as a major metalworking node.²²³ This may not have been a coincidence, and has led to the idea that the centre of gravity in metalworking shifted from the so-called Carpatho-Balkan Metallurgical Province to the Circumpontic Metallurgical Province.²²⁴ There is certainly merit in this view.

²²³ Kohl 2007.

²²⁴ Chernykh 1992; Kohl 2007; Lyonnet 2007b.

CHAPTER 5

ENCOUNTERS BEYOND THE CAUCASUS: THE KURA-ARAXES CULTURE AND THE EARLY BRONZE AGE (3500–2400 BC)

A family feels exactly like an archipelago, separate but part of a whole and always drifting slowly apart.

(Matt King, *The Descendants*)

The musings of Matt King (George Clooney), the Honolulu-based lawyer in the film *The Descendants*, provide an apt metaphor both for a family and for the Kura-Araxes *oikoumene* – a vast culture province displaying unmistakable unity in portable material culture and aspects of domesticity, yet containing separate regional particularities that changed through time and across an extensive area north and east of Mesopotamia. These two faces of the Kura-Araxes – similarity and diversity – still pose a challenge for researchers.

The Kura-Araxes archaeological culture represents the remains of village communities of stockbreeders and farmers that in terms of social complexity may be best described as heterarchical. There is no evidence of rigid hierarchy or political centralisation. Instead, we have communities whose decision-making processes were collective and based on horizontal kinship networks. Emerging from the fuzziness of the Late Chalcolithic around 3500 BC, these south Caucasian groups stamped the following millennium with an imprint entirely their own. There are, of course, in reality no such things as separate periods, because one merges directly into the next, usually without a definite point of transition. But if ever the distinction between two periods denoted by convenient labels of this kind may be regarded as justified, it was now, when the Chalcolithic lifestyle was gradually ending and the Early Bronze Age, defined by the Kura-Araxes complex, was about to take shape.

Although the Kura-Araxes tradition lacks the monumentality and material richness of subsequent complexes, no other prehistoric archaeological culture of the southern Caucasus has captured the attention and imagination of

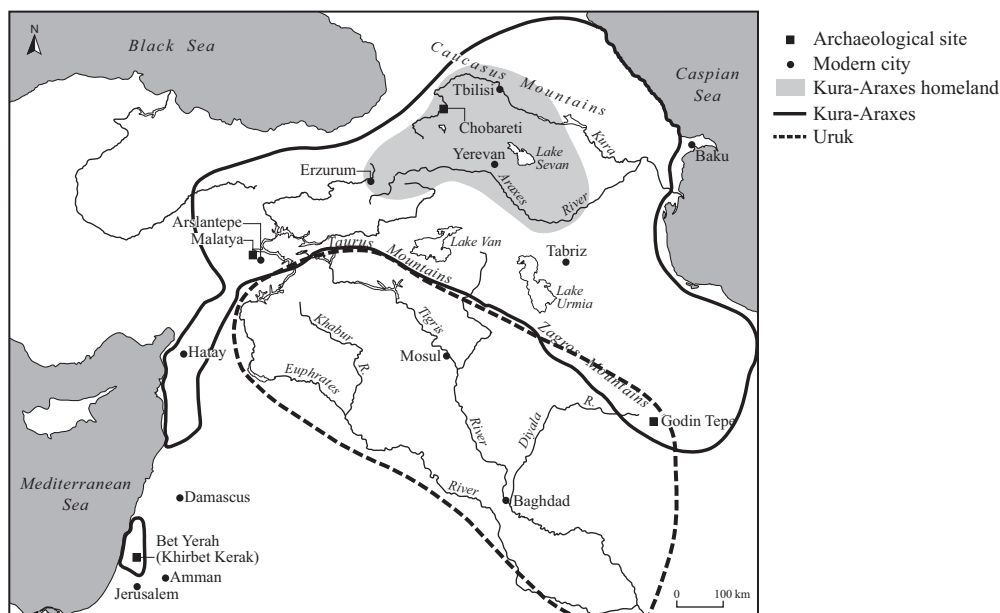


Figure 5.1. Map showing the full extent of the Kura-Araxes complex, as well as its heartland, compared to the geographical spread of the Uruk horizon (drawn by C. Jayasuriya).

archaeologists with quite the force of the Kura-Araxes ‘phenomenon’. There are three reasons for this attraction.

In the first instance, we are at once confronted with the great expanse of its geographical distribution, reaching well beyond the Kura-Araxes interfluvium to which we can trace its roots. Variations of the tradition can be followed southward along the arc of the Taurus and Zagros Mountains, spreading down to the Amuq Plain on one side, and the Urmia basin through Godin Tepe to the Kangavar Plain on the other. Recent fieldwork in the areas south of the Caspian Sea down as far as the outskirts of Tehran and well beyond have added more sites to the culture province (Figure 5.1). This spread begs the question of what the reasons and stimuli were that prompted this diaspora. Second, there is the tradition’s longevity, puzzling as it is intriguing. With early manifestations evident around the mid-fourth millennium BC, the tradition continued to evolve for at least a millennium in most regions.

The third characteristic of the Kura-Araxes is its cultural ‘package’, a distinctive set of recurring traits, including a formalised use of domestic space fitted with standard elements such as hearths and benches; distinctive handmade pottery, often bearing regionally specific ornamentation and surface treatments; ceramic horned animal figurines; and a limited set of metal and stone items.¹

¹ Sagona and Zimansky 2009: 163–4.

This tenacious adherence to certain fundamental elements of material culture and an orthodox pattern of domesticity was a conscious attempt to preserve a common social identity.² This form of cultural and social organisation stands in sharp contrast to the tradition's contemporary neighbours in the fourth millennium BC – the hierarchical Uruk societies of Mesopotamia and the Maikop culture province of the northern Caucasus. Although these two communities were markedly different in character – one urban and based on irrigated agriculture and specialised animal husbandry, the other favouring temporary settlements and mobility – each reflected strong vertical social organisation.³

Despite standardised traits, the greater Kura-Araxes culture province also exhibits a high degree of regionalism, especially in house forms and burial types, aspects that, to my mind, reflect multi-ethnicity. Indeed, it is this display of both homogeneity and heterogeneity in its material culture, a relationship that points to complex hybrid identities rigorously accepting shared values and beliefs, that has prompted some to ask what exactly the Kura-Araxes tradition represents.⁴ The picture is further complicated by the strong perception that certain Kura-Araxes communities were highly proficient stockbreeders, who practised transhumance on a regular basis. These mobile pastoral communities, somewhat clannish in their attempts to preserve cultural cohesion, spreading and occupying vast tracts of mountainous territories, have thus engendered a sense of curiosity amongst scholars.

Before we examine these and other pertinent matters, let us remember that the term Kura-Araxes (or even Kura-Araks) is one of several used. Coined by Boris Kuftin to emphasise the heartland of the tradition, between the valleys of the rivers Kura and Araxes, Soviet archaeologists preferred it and local researchers in the Caucasus continue to use it.⁵ A variation of this is the Kura-Araxes Cultural Community.⁶ Another collective designation is Early Trans-Caucasian (ETC), which has the advantage of emphasising the greater south Caucasian region, but like most terms falls short of precision.⁷ Other descriptors are regional-, period-, or site-specific. Some are quite anachronistic, or simply

² Smith (2015: 97–126) provides a very useful account of Kura-Araxes materiality as an expression of political, social and ritual ideology.

³ Palumbi 2016.

⁴ Smith 2005: 258.

⁵ Kuftin 1940, 1941: 114, 1944b. It should be noted that Baiburtian (1938) was also working towards a definition of the black and red ceramics before Kuftin. This was based mainly on his excavations at Shengavit, which formed the basis of his PhD dissertation. But his untimely death in a Gulag camp precluded the defence of his thesis, scheduled in 1939 (Baiburtian was arrested shortly before), and the proper dissemination of his ideas. His main work was published posthumously (2011). I would like to thank Viktor Trifonov for filling me on the details of Baiburtian's arrest and transfer to the Gulag camp. Chubinishvili (1963) produced the first synthesis on the Kura-Araxes complex.

⁶ Kohl 2007: 91–125.

⁷ Burney and Lang 1971: 44.

confusing, whereas others are more than adequate and still very much in use. The range includes the ‘Eneolithic culture of Trans-Caucasia’; ‘Shengavit culture’, focusing on a key site in Armenia; the ‘Karaz culture’, used by Turkish archaeologists for the Anatolian assemblages; the ‘East Anatolian Early Bronze Age’ and ‘The Culture of North East Anatolia’; the ‘Yanik culture’, stressing the role of north-western Iran; the ‘Outer Fertile Crescent Culture’; the ‘Dagestan-Palestinian Archaeological Area’, according special importance to the tradition’s northern and southern extremities; ‘Khirbet Kerak Ware’, a regional assemblage from the Levant found clustered in northern Israel and the West Bank; and ‘Red-Black Burnished Ware’ used to describe the ceramics of Amuq Phase H and, increasingly, the repertoire in the Turkish Upper Euphrates region, especially by the Italian researchers at Arslantepe.⁸ In this study, I have retained the designation Kura-Araxes.

BORDERS AND FRONTIERS

More than 700 Kura-Araxes sites, from the tradition’s fledgling appearance to its latest expressions, have been documented, and many hundreds more are likely to augment this number in the future, as neglected highland areas are intensively surveyed (Figure 5.2).⁹ This includes work in the southern Caucasus where, despite a very active archaeological tradition during the Soviet period, little systematic field walking and recording has been undertaken. The Kura-Araxes tradition is at home in the tangle of mountains and inter-montane valleys between the Caucasus and the Taurus ranges. After the Late Chalcolithic period, the immense highland zone of eastern Anatolia and north-western Iran was swiftly embraced by the material culture of the Kura-Araxes. As will be discussed, what prompted this dispersal is unclear, but most would now agree that it involved in part the migration of kin-based communities who moved as far south as the Sea of Galilee.¹⁰ Western Georgia, however, remained

⁸ Shengavit culture (Baiburtian 1938; Sardarian 1967); Karaz culture (Koşay and Turfan 1959; Yalçın 2011, 2012. Işıklı, 2011, who re-investigated the material from Karaz, prefers the ‘Early Trans-Caucasian Culture’); the East Anatolian Early Bronze Age (Burney 1958); the Culture of North East Anatolia (Lamb 1954); the Yanik Culture (Dyson 1965); Dagestan-Palestinian Archaeological Area (Areshian 2005: 72, n.7); the Outer Fertile Crescent culture (Kelly-Buccellati 1979); Khirbet Kerak Ware (Albright 1926: 27); for a detailed report on the early excavations at Tel Bet Yerah (Khirbet el-Kerak), see Greenberg et al. 2006; and for a final report on the Tel Beth-Shean deposits, Mazar 2012; Red Black Burnished Ware (Braidwood and Braidwood 1960; Palumbi 2008).

⁹ For a detailed gazetteer, see Sagona 1984, vol. 2, which has been updated by Batiuk (2005: 295–415). Amongst the publications that have extended the cultural boundaries of the Kura-Araxes culture province or revealed significant concentrations in specific areas, see Young 2004; Fahimi 2005; Badalyan and Avetisyan 2007; Piller 2010. The map in Kushnareva (1997: 46–8, fig. 18) is useful, but outdated.

¹⁰ Greenberg et al. 2015.

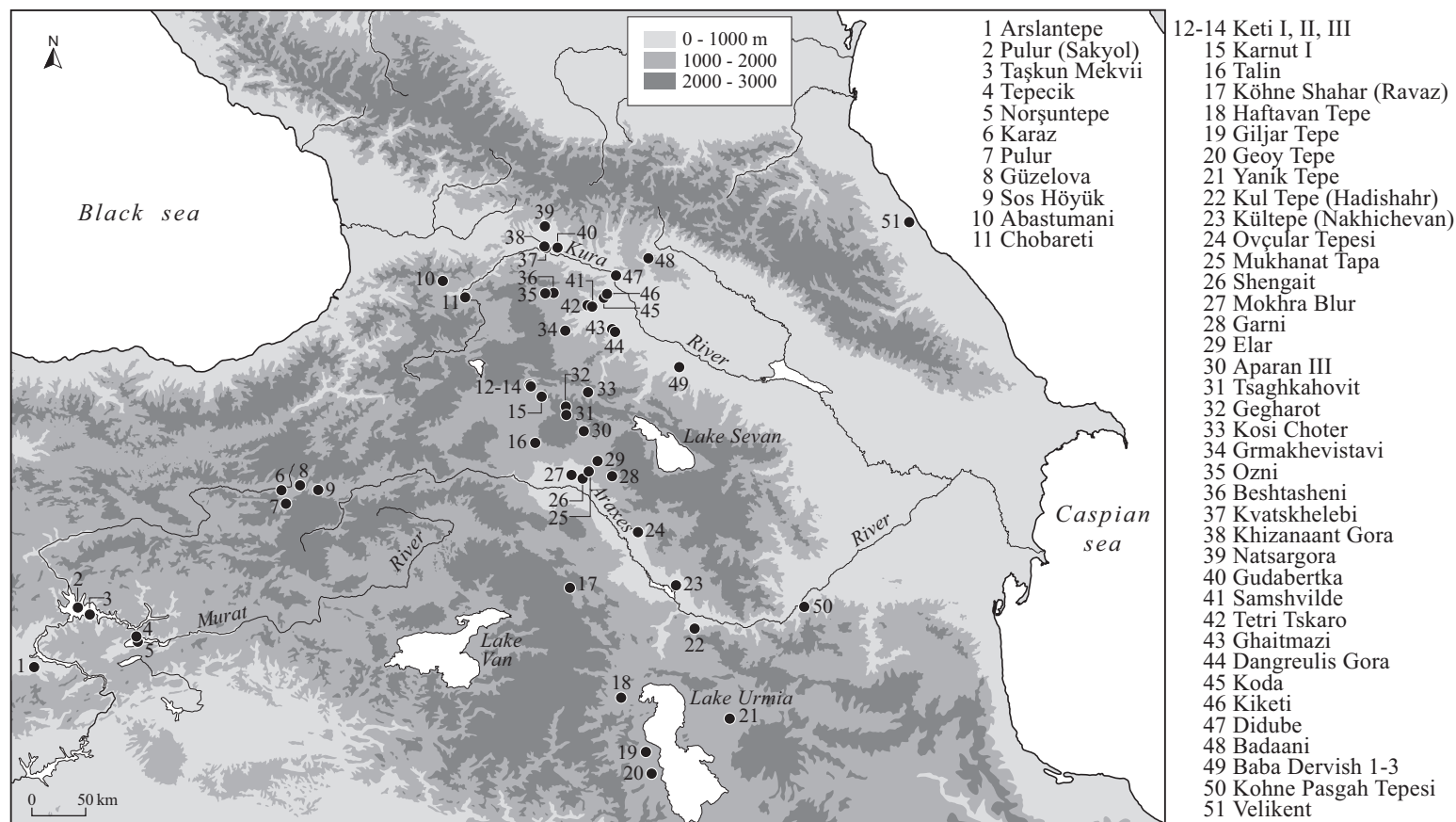


Figure 5.2. Map showing the main Early Bronze Age sites in the southern Caucasus and neighbouring lands (drawn by C. Jayasuriya).

unaffected by this expansion, for reasons discussed further on, and the formidable Greater Caucasus Mountains, though traversable, acted as an effective barrier to the settlement of the Eurasian steppes to the north.

Within this divided landscape, these pioneering farming groups are today represented by mound sites, mostly small hamlets between 1 and 2 ha in size. These have only one or two periods of occupation and are almost never sandwiched between the cultural debris of other periods. Shengavit in the Ararat Plain, with its 3.5 m deposit and 6 ha spread, is an exception.¹¹ Sites with similarly deep deposits are located on the fringe of the Ararat Plain or in Nakhichevan and the middle Araxes Valley, around Lake Urmia, where Yanik Tepe and Gijlar Tepe are found, or in the Turkish Upper Euphrates region, where the co-mingling of several cultural traditions has been attested.

Kura-Araxes communities settled at a range of altitudes, from coastal plain (not well populated) along foothills and valley floors to the highlands proper, reaching lofty heights around 2,000 m above sea level. In this sense, they followed the pattern already set by the bearers of the Chalcolithic Sioni tradition. Stephen Batiuk concluded that geography can account in part for the choice of land, and that most Kura-Araxes communities preferred valley floors and foothills, within the 400–600 mm isohyet zone of precipitation, the most conducive for rain-fed agriculture.¹² Although human activity during the Holocene period has dramatically changed the physical landscape of the Near East, especially the woodlands, broad ecological niches can still be discerned. Outside the Caucasus, the clear majority of Kura-Araxes communities (76 per cent) preferred territories with arable land suited to farming. Only a very small proportion (15 per cent) of sites are located in pastureland, and even fewer (1.3 per cent) in areas of rough grazing.¹³ While this patterning could reflect the ‘invisibility’ of transhumant sites, evidence is mounting that the communities of the Kura-Araxes opted for territories that were well suited to a low-risk, mixed farming economy. Even so, we should bear in mind the difference between herd mobility and community mobility. It is possible, for instance, that a fully sedentary agricultural community practised transhumance, the seasonal migration of the livestock and a few herders between higher and lower pastures.

Georgia

The north and north-eastern boundary of the Kura-Araxes culture province is defined by the mountains of Dagestan, Chechnia, and Ingushetia. In

¹¹ Simonyan and Rothman 2015: 12.

¹² An isohyet is a line connecting points on a map that have the same amount of rainfall. Batiuk (2005: 79–80) groups sites according to quantity of Kura-Araxes material culture: predominant (class 1), substantial amount coexisting with other ware types (class 2), in the minority (class 3), and funerary sites (class 4).

¹³ Batiuk 2005: 83–4; fig. 7, table 3.

Dagestan, most of the sites are positioned along the narrow coastal littoral, such as Velikent, north of Derbent, with a few following the watercourses up into the foothills.¹⁴ From the adjacent territory of north Ossetia down to the districts around Kutaisi there is another cultural frontier, namely that between the Kura-Araxes and the Maikop traditions, where Sachkhere represents the pre-eminent site.

Interestingly, most of western Georgia, drained by the rivers Rioni and Inguri and their tributaries, has no Kura-Araxes sites. This boundary could simply stem from an aversion to the wetlands of western Georgia, where the rich red soil, mild temperatures, and high precipitation nurtures sub-tropical vegetation within a system of marshes and lagoons. A social explanation, however, is more likely. Indigenous communities in this triangular wedge of land, who pursued their own distinctive cultural trajectory throughout the Bronze Age (the so-called Proto-Colchian, Chapter 10), quite possibly posed a formidable barrier that thwarted the expansion of Kura-Araxes values. There are a few sites in the eastern half of western Georgia, to be sure, which do bear Kura-Araxes affinities and show some form of co-existence. The site of Qanobili near Abastumani, for instance, is a striking example of a boundary site, comprising a mixture of Kura-Araxes elements intermingled with those of the Zemo (Upper) Imereti cave cultures.¹⁵

In Georgia, there are several settlement nodes, specifically along the lowlands of the Kura River (Shida and Kvemo Kartli). Significant settlements in the environs of the modern towns of Urnisi and Gori include the stratified sites of Berikldeebi, Kvatskhelebi, Khizanaant Gora, Natsargora, and Gudabertka.¹⁶ Other locations are dotted across the plain, with a good number strung along the Liakhvi River, which cuts through South Ossetia to meet the Kura River. Further east, sites are located in the narrow valley of the Aragvi River, especially around Dusheti.¹⁷ In Kvemo Kartli, the early settlements of Didube and Treligorebi are situated on opposite banks of the Kura River within the environs of Tbilisi; both were discovered as part of modern building operations.¹⁸ Further south in the plain of Marneuli, fed by the Khrami and Algeti Rivers, we have a number of significant villages – Ghaitmazi, Dangreuli Gora, Kiketi, and Koda.¹⁹

¹⁴ Gadzhiev et al. 2000; Magomedov 2006; Kohl and Magomedov 2014.

¹⁵ Pkhakadze et al. 1982.

¹⁶ Dshawachishvili 1998 (Berikldeebi); Dzhavakhishvili and Glonti 1962 (Kvatskhelebi); Kikvidze 1972 (Khizanaant Gora); Puturidze and Rova 2012b (Natsargora); Mindiasvili et al. 2012 (Gudabertka).

¹⁷ Gogochuri 2008.

¹⁸ Kiguradze and Sagona 2003 (Didube); Abramishvili and Gotsiridze 1978 (Trel).i.

¹⁹ Glonti 1975 (Ghaitmazi and Dangreuli Gora); Pkhakadze 1963 (Kiketi); Pkhakadze 1976 (Koda).

The cluster of locations in north-western Azerbaijan, such as Mentesh Tepe, and the Baba Dervish group in the Akstafa district fall within the same catchment area.²⁰ West of Marneuli, the terrain rises to meet the plateau of Tsalka, the scene of Kuftin's salvage excavations, where he defined the Kura-Araxes tradition on the basis of material from Beshtasheni and Ozni, and the tombs at nearby Tash Bashi and Barmaksizi.²¹ Along the way to Tsalka are the important sites of Samshvilde and Tetri Tskaro. Even higher and further west is the landscape of Samtskhe-Jhavaxheti, a restricted military-border zone during the Soviet period, and hence, a poorly investigated region. Amiranis Gora, on the outskirts of Akhaltsikhe, is a notable settlement investigated in the 1950s, supplemented by exploratory investigations at Rabati a few years later, in the village of Zveli.²² More recently, the terraced hamlet at Chobareti is improving our understanding of the Akhaltsikhe region.²³

Armenia

In Armenia, Ruben Badalyan and Pavel Avetisyan have produced a very useful and detailed gazetteer of Bronze and Iron Age sites for the region around Mount Aragats.²⁴ This rich body of new data lists forty locations dotted around the mountain's perimeter; the notable Early Bronze Age sites are Aparan III, Gegharot, and Karnut I. Most of the Kura-Araxes settlements are situated on the fringe of the inter-montane zone, where they were positioned to take advantage of the main corridors of communication (the plains of Shirak, Aparan, and Tsaghkahovit) and access to fresh water. Typically, in what Badalyan and Avetisyan refer to as the Early Bronze Age I, communities preferred to build their villages on unoccupied land, even though earlier settlements were located nearby. In terms of altitude, these early sites show a remarkable range, extending from the plains through the foothills (over 800 m) to lofty altitudes above the snow line (2000–2300 m).²⁵ Hamlets such as Kosi Choter, Tagavarnist and Mets Sepasar are nestled amid the deep gorges and narrow valleys of the Lesser Caucasus north of Mount Aragats.²⁶

²⁰ Lyonnet and Guliyev 2010; Narimanov and Ismailov 1962; Vaidov and Narimanov 1967; Lyonnet et al. 2012: 86–121.

²¹ The Early Bronze Age remains from Tsalka are sprinkled throughout Kuftin 1941, 1944b, and also Zhorzhikashvili and Gogadze 1974.

²² Chubinishvili 1963.

²³ Kakhiani et al. 2013. Recent surveys connected with the Chobareti project, itself part of the Georgian-Australian Investigations in Archaeology (GAIA), have revealed further Kura-Araxes sites. See Anderson et al. 2014 for the Landscape Archaeology in Georgia (LAG) survey; the other ongoing project is the Archaeological Surveys in Samtskhe-Dzhavakheti (ASSJ) with a study area in the Aspindza and Akhalkalaki districts.

²⁴ Badalyan and Avetisyan 2007.

²⁵ Badalyan and Avetisyan 2007: 303.

²⁶ Badalyan and Avetisyan 2007: map on p. 238.

South of Mount Aragats is the steep-sided basin of Ararat with its deep and pervious alluvium. This sheltered middle Araxes valley has a very favourable ecology, though rainfall is limited. Its sandy river terraces and the availability of fresh water attracted the Kura-Araxes communities who settled along watercourses here for prolonged periods. Sites with deep sequences, such as Shengavit and Mokhra Blur, radiate out from Mount Ararat along the Kasakh, Razdan and other tributaries of Araxes River. Around Lake Sevan, we have the thin settlement remains of Kamo and Astkhadzor, and a few sherds from Lchashen.

Azerbaijan

Neighbouring Azerbaijan has considerable settlement in the Mugan steppes, the central portion of the extensive lowland drained by the Kura and Araxes Rivers. We have already mentioned Mentesh Tepe, in western Azerbaijan, which has yielded impressive results. The Nakhichevan region, once represented by the substantial but poorly differentiated sequence at Kültepe I, excavated in the 1950s, now also has the site of Ovçular Tepe, with its 'Late Chalcolithic Kura-Araxes'.²⁷ The term reflects, according to the excavators, a period of co-existence in the late fifth millennium BC between Chalcolithic and Kura-Araxes groups, easily distinguishable by their material culture.

Eastern Anatolia

Beyond the Caucasus, sites can be found across much of eastern Anatolia, north of the Taurus Mountains, with a few settlements in the stone-strewn plain of Karaköse. Survey work in the eastern provinces has yielded a considerable amount of material from Iğdır and Doğubayazıt, and the sheltered shores of the Lake Van basin and the adjacent plain of Muş have long been known as nuclei.²⁸ Burnished sherds were also discovered in the pockets of fertile land to the lake's east, at various sites around Bulanık, north-east of Muş, but not in the Malazgirt area.²⁹ The assemblage from Ernis on the north shore of Lake Van is reported to have come from a stone cist, making it the westernmost example of this tomb type.

Curiously overlooked by archaeologists is the high plain of Kars, which has scattered material that is now housed in the city's museum, pointing to

²⁷ Abibullaev 1959a, 1965a (Kültepe I). Many of the paper labels used at Kültepe were destroyed when the basement of the store room in which the material was held flooded, Narimanov pers. comm. 1987. Bakhshaliyev 1997; Marro et al. 2009, 2011, 2014 (Ovçular Tepe). See also Parker et al. 2011 for survey results.

²⁸ Marro and Özfirat 2003, 2005; Rothman and Kozbe 1997.

²⁹ Burney 1958.

settlement there as well.³⁰ Further east, we come to the longitudinal highland plain of Erzurum and its eastern extension, the Pasinler Plain, where survey has recorded a number of sites, reflecting its function as a major thoroughfare in antiquity.³¹ Karaz, Pulur, and Güzelova, investigated early on by Hamit Koşay, complement the key site of Sos Höyük in this region, with its clearly differentiated sequence.³² Beyond, Kura-Araxes material is attested in the Erzincan Plain at Altuntepe and throughout the Bayburt province, which appears to form a northern boundary in the Pontic region.³³ Although rigorous field-work along the eastern Black Sea coast in Turkey is lacking, Kura-Araxes communities appear not to have settled there.

One of the greatest concentrations of Kura-Araxes material culture is around the Upper Euphrates in east-central Turkey, where a considerable number of surveys of the Malatya and Elazığ regions, some quite intensive, have recorded significant finds.³⁴ Here, at the intersection of two worlds – one stemming from the southern Caucasus, the other influenced by the centralised systems of northern Mesopotamia and the Uruk sphere – is the rich and pre-eminent site of Arslantepe with its articulated evidence for co-existence.³⁵ Nearby, in the fertile Altınova Plain, sites such as Tepecik are clustered around the main settlement of Norşuntepe; and to its north-east, in the Murat drainage system, we have, amongst other sites, Taşkun Mevkii and Pulur (Sakyol).³⁶

The accumulation of sites rich in Kura-Araxes material in the Malatya-Elazığ region reflects the importance of its geographical position within Anatolia. In addition to the natural east-west highway, two other natural routes converge at Malatya. The western limits of the Kura-Araxes, the perimeter between the central and eastern Anatolian culture provinces, are generally understood, but not without problems. Primary amongst these is the difficulty of distinguishing from surface finds between the red-black burnished wares of eastern and central Anatolia. Even so, there is a suggestion that the Sivas province, whether east or west of the main town, was the boundary.³⁷

³⁰ It is difficult to determine from the surveys conducted by Kökten (1947) whether Zöhrap and Azat Höyük had Kura-Araxes material. Ani, though, has yielded material below its medieval deposits, now held in the local museum in Kars.

³¹ Sagona, C. (1999) carried out an intensive survey of the Pasinler Plain. For an extensive survey of the Erzurum, Erzincan, Kars, and Iğdır provinces, see Ceylan 2008.

³² The Koşay sites have been recently re-examined by Mehmet Işıklı (2011), who lists all the relevant literature.

³³ Sagona and Sagona (2004) for results of intensive survey of the Bayburt region.

³⁴ For an overview of the surveys, see Sagona 1984.

³⁵ For a detailed listing of relevant publications on Arslantepe, see Palumbi 2008. On more recent discoveries, see Frangipane 2014.

³⁶ Whallon 1979 (for the Altınova Plain survey); Yalçın 2012 (Tepecik); Hauptmann 2000 (Norşuntepe); Sagona 1994a (Taşkun Mevkii); Koşay 1976 (Pulur Sakyol).

³⁷ Ökse 2005. According to Yakar and Gürsan-Salzman (1979) the boundary runs from Gurun to Alacahan. For the area further south, Todd (1973) has suggested that the border lies south of Pınarbaşı between Kayseri and Elbistan, and runs north-east to south-west.

Iran

Turning to Iran, recent salvage work along the middle Araxes basin has revealed substantial sites, most importantly Kul Tepe (Hadishahr), which dates to the late fourth millennium BC.³⁸ Further south, we find a cluster of sites around the basin of Lake Urmia, which harbours several major and large sites (6–10 ha), including Geoy Tepe on its west side and Yanik Tepe on the eastern shore.³⁹ Surface material from Diarjan in the Gilan region, and an increasing number of sites south of the Caspian Sea, including some in the Elburz Mountains, appears to define the easternmost boundary in northern Iran.⁴⁰ The Meshkin Shahr Plain, however, has yielded no material.⁴¹ Kura-Araxes pottery has been found just north of Saqqez too, but the southernmost infiltration, also based on the results of surface surveys, is located south of Hamadan in the plains of Malayer, Kangovar, Assadabad, and Nehavand.⁴² Here the settlement of Godin Tepe IV is of fundamental importance for its post-Uruk finds with Kura-Araxes traits; a situation that is redolent of Arslantepe.⁴³

Amuq Plain and the Levantine Coastal Region

On the other side of the Near East, another concentration of sites is found in the fertile Amuq Plain, in the Hatay province, bypassing the plain of Cilicia completely.⁴⁴ In this broad expanse of land, at the northern tip of the Levantine corridor, communities embracing a Kura-Araxes material culture (Red Black Burnished Ware) occupied a geographical region that was completely different to their ancestral highlands, except perhaps for the steppe region of Azerbaijan. From the Amuq, a sprinkling of sites leads to the area around the Sea of Galilee, where William Foxwell Albright identified the southern manifestation of Kura-Araxes, Khirbet Kerak Ware, nearly 100 years ago. Today, the sites of Tel Bet Yerah and Tel Bet Shean have produced fundamentally important information on the nature of Khirbet Kerak in this region.⁴⁵ The few imports in parts of Jordan, especially in the Yarmuk Valley, represent the southernmost outliers.⁴⁶

³⁸ Abedi et al. 2014; Abedi and Omrani 2015; Maziar 2010.

³⁹ Summers 2013b, 2014. For settlement patterns in the Urmia basin, see Kroll 2005; Omirani et al. 2012. Burton-Brown 1951 (Geoy); Belgiorno et al. 1984 (Gijlar Tepe); Burney 1970, 1972, 1973, 1975 (Haftavan Tepe); Summers 2013a (Yanik Tepe).

⁴⁰ Fahimi 2005; Piller 2012; Maziar 2015: fig. 1.

⁴¹ Burney 1979.

⁴² Swiny 1975; Young 2004.

⁴³ Rothman 2011.

⁴⁴ Braidwood 1937; Braidwood and Braidwood 1960; Batiuk 2005.

⁴⁵ Greenberg et al. 2006; 2014a; Getzov 2006; Mazar 2012.

⁴⁶ Sagona 1984: 329–36.

Cyprus

Finally, we should note the eight complete horseshoe-shaped hearths (or hobs) and many fragments found across the sea at Marki Alonia, in Cyprus, which points to some form of interaction between Levantine groups and the island.⁴⁷

CHRONOLOGY, PERIODISATION, AND THE PROBLEM OF TRANSFORMATIONS

The separate developmental stages of the Kura-Araxes tradition and its regional relationships continue to bedevil. Whereas other periods of the Caucasus present similar challenges, those of the Kura-Araxes are seemingly more acute. In a recent study, I outlined the main problems, which include the ever-present scarcity of radiocarbon dates for sites scattered so far apart, inconsistencies in ceramic typologies (still the backbone of Kura-Araxes schemes), and conflicting and ambiguous nomenclature.⁴⁸ The many developmental schemes show that accord has not been reached on how the tradition should be sliced up.⁴⁹ This uncertainty has its roots in different research methodologies, as well as the degree to which the Kura-Araxes tradition can be reconciled with the far better dated complexes of the Near East.

It would be otiose to repeat the problematic details here, suffice to say that a few points need to be underscored. The first concerns socio-cultural transformations – the transitions between phases or periods – and how these are expressed in the material culture. Many studies on the Kura-Araxes have an implicit evolutionary assumption; namely, that developments over a millennium or so occurred in a linear fashion more or less simultaneously over its vast territory.⁵⁰ These shifts are seen as discrete incremental units, or periods of stability (phases), that were ruptured by interludes of change. In reality, adjustments in social systems, like all complex systems, do not occur at the same rate everywhere. Episodes of rapid transformation can alternate with periods of little change, and variation between regions can differ markedly, owing to local circumstances. This approach stems from the Theory of Complex Systems, which maintains most social systems are potentially unstable in so far as they are dynamic entities affected by a range of processes at different levels – individual, group, and institutional.⁵¹ It also assumes that social systems are inherently

⁴⁷ Frankel and Webb 2006: 17–21, pl. 9. Based on a few horned fragments from Late Chalcolithic Can Hasan and a single piece from Bağbaşı, the authors raise the possibility of an independent origin in south-west or central Anatolia. Stylistically, however, the Marki Alonia hobs are a much closer fit to the andirons from the Amuq and east Anatolia, where they are ubiquitous.

⁴⁸ Sagona 2014a.

⁴⁹ For example, Sagona 1984: 15–18, table 1; Palumbi 2008: 12–16, table 1.1.

⁵⁰ For an overview of theoretical constructs see, Rothman 2016.

⁵¹ Van der Leeuw and McClade 1997.

flexible, able to adapt to internal changes as well as fluctuations in the environment. This non-linear model is worthwhile to keep in mind, as it offers some insights on how the spatially extensive Kura-Araxes grew and evolved.

The birth, rise, and fall of the Kura-Araxes, roughly comparable to its oft-cited developmental phases I–III, each have specific matters that have attracted attention. The culture's seemingly abrupt detachment from the earlier Chalcolithic around 3500/3400 BC continues to preoccupy the authors of studies on the Kura-Araxes genesis, though the excavators at Ovçular Tepe would argue for a period of coexistence in the late fifth millennium BC.⁵² In this book, I have equated the Kura-Araxes with the Early Bronze Age, bearing in mind that one is not a default term for the other. In this regard, we must be clear on the difficulties in reconciling the south Caucasian sequence with those elsewhere.⁵³ The nub of the problem concerns the continued use of archaeological periodisations developed in the nineteenth century that no longer reflect their original European technological narratives.

For some, the emergence of the Kura-Araxes at the beginning of the Early Bronze Age is inextricably connected to innovations in metallurgy and metalworking.⁵⁴ Isolating metalworking as the driving factor behind the development of the Kura-Araxes complex is perhaps overstating the case for several reasons, not least of which is the scarcity of early Kura-Araxes metal items and the lack of novel metalworking technologies.⁵⁵ Instead, it is the transformative social and cultural dynamics that warrant the attribution Early Bronze Age. In any case, the application of these early techno-chronological constructs, which were formulated in nineteenth century Europe to order major developmental phases, poses challenges in geographically diverse regions.

When we compare the southern Caucasus with the Anatolian Upper Euphrates region, for instance, we encounter a curious terminological 'fault line'. On the one side, we have the Kura-Araxes initiating an 'Early Bronze Age' lifestyle in the southern Caucasus around 3500/3400 BC. Across the line, their distant but coeval neighbours in the socially complex Upper Euphrates region, whose relations with the early state systems of the Mesopotamian world ensure they are locked into a well-integrated framework, are placed in the 'Late Chalcolithic'.⁵⁶ This is not the only instance of terminological confusion. A glance at some recent cultural schemes for the Caucasus, Anatolia, and Iran indicates that the chronological interface between the end of the Chalcolithic and the beginning of the Early Bronze Age varies considerably

⁵² Marro et al. 2014. For a critique see, Palumbi and Chataigner 2014, and a rebuttal (Marro et al. 2015).

⁵³ Sagona 2014.

⁵⁴ Kohl 2007 following Chernykh 1992.

⁵⁵ Sagona 2014: 25–6; Gambashidze et al. 2010; Palumbi 2016: 26.

⁵⁶ Rothman 2001.

from 3500 BC to as low as 2900 BC.⁵⁷ Clearly, differentiated stratigraphies, dated precisely and objectively through radiocarbon analysis, is the way forward. Periodisation is convenient, but we must keep in mind that it is simply a heuristic device, which categorises and makes manageable the study of a large and complex body of data. In any case, we must remember that 'Kura-Araxes' is the cultural flip-side of the term Early Bronze Age.

Expansion is the main theme of the 'rise' of the Kura-Araxes. Starting about 3000/2900 BC, its cultural province extended to its furthest extremities. This is also the period of highest regionalism. Architecture, like burials, shows considerable diversity, and red-black ceramics reach a peak in quality and quantity, and display regionally specific sets of elements, especially ornamentation.⁵⁸ Communities in north-western Iran, for instance, preferred totally black or grey burnished containers decorated with excised designs highlighted with a white paste. Even the addition of grog sets this assemblage apart.⁵⁹ The nature of this Kura-Araxes expansion has been a major preoccupation and will be dealt with further: migrations, emulation, transfer of ideas, hybridisation, and several other concepts have sought to explain the movement out of the homeland.

Gradual fragmentation, uneven across the territories, characterises the 'fall' of the Kura-Araxes tradition. The abandonment of villages and the appearance of novel elements, including advances in metallurgy and the adoption of barrow burials, often grouped into the rubric 'Early Kurgans' are the main concerns. As for the final stages of the Early Bronze Age, considerable confusion still surrounds the terms 'late Kura-Araxes', 'early-Trialeti', and 'Martkopi'. Some questions remain, such as, for instance, what attributes, exactly, define Martkopi ceramics and how they differ from early-Trialeti drive current research. These and other issues will be dealt with later in this chapter.

Presently, two broad developmental schemes have been proposed for the period 3500–2400 BC. One, the conventional view, refined and articulated by Giulio Palumbi, argues for a tripartite sequence (Kura-Araxes I–III).⁶⁰ The other, maintained by Ruben Badalyan and based on the Armenian sequence, argues for a twofold periodisation represented by three groups (Kura-Araxes I: Elar-Aragats group; Kura-Araxes II: Karnut-Shengavit and Shresh-Mokhrablur groups).⁶¹ Most recently Palumbi appears persuaded by this twofold scheme.⁶² Even though more contextual information and radiocarbon

⁵⁷ Lyonnet 2007a: 13; Steadman and McMahon 2011; Petrie 2013: 5; Potts 2013; Bolger et al. 2014.

⁵⁸ Rarely is Kura-Araxes pottery painted, Shanshashvili 2013.

⁵⁹ Mason and Cooper 1999.

⁶⁰ Palumbi 2008, table 2.1.

⁶¹ Badalyan 2014.

⁶² Palumbi 2016.

readings are required to determine precisely the developmental sequence, the broad cultural trends are already evident.

Chronometric dates are scarce for the nascent phase, with most of the earliest clustering around 3300/3350 BC. Nevertheless, working back from the end of the Chalcolithic, and given the handful of dates preceding this cluster, we can postulate a change around 3500 BC, or possibly later. The cultural discontinuity in the mid-fourth millennium between the Chalcolithic and the Early Bronze Age is manifested in ceramics, settlement types, and domestic features such as hearths. The social and cultural processes responsible for this shift are not altogether clear, except to say that the innovations in the mid-fourth millennium emerged from a milieu that witnessed a considerable amount of cultural interplay. From the Chalcolithic mix of Syro-Mesopotamian and local elements emerged a series of novel traits that developed into the key elements of the Kura-Araxes cultural package. Around 3300 BC the homeland of the Kura-Araxes witnessed an increase in settlement numbers that reflects expansion and change, albeit subtle, in crafts such as pottery. Amongst these developments is a shift after 3300 BC from pale brown ceramics to vessels with black-and-red surfaces.

In these earliest centuries, Kura-Araxes communities continued the former Chalcolithic practice of exploiting a wide range of environments, though environmental changes around the mid-fourth millennium provided them with a broader choice of subsistence strategies, extending into the highest altitudes.⁶³ Although we have no firm evidence on economic matters for this earliest stage, evidence is mounting from the subsequent phase that we are dealing primarily with groups of farmers who cultivated cereals and kept domesticated stock.⁶⁴ Settlements are peppered across the central part of the southern Caucasus, reaching from Shida Kartli to northern Armenia and western Azerbaijan. That we have evidence of early occupation in the lowest deposits at Sos Höyük in the Pasliner Plain of eastern Anatolia indicates that this region probably formed the western boundary of the early culture province.

A few generations after the pioneering groups had become established in the southern Caucasus and in a few outposts beyond, communities began to place much emphasis on a self-conscious definition of the group through the formalisation of the cultural package. This move towards a common identity brought with it increasing diversity, especially evident in architecture that displays regional tastes. When this occurred is a moot point. I have placed it around 3300 BC, because that is when we see an expansion of settlements and the first appearance in the southern Caucasus of true black and red ceramics, which became the hallmark of the tradition.⁶⁵ It would not surprise, however,

⁶³ Connor and Sagona 2007; Connor and Kvavadze 2014. See also Joannin et al. 2014 on the drier phase experienced during the Chalcolithic.

⁶⁴ Hovsepyan 2010; Kakhiani et al. 2013; Longford et al. 2009; Piro 2009.

⁶⁵ Palumbi 2008; Sagona 1984. On the symbolism of the colours see, Greenberg 2007.

if future investigations placed it later. As new and trustworthy radiocarbon dates are beginning to accumulate, 2900 BC is emerging as a watershed in the Kura-Araxes tradition, when expansion and diversity become the main themes.

Early Settlements: Houses, Hearths, and Pits

Although coherent house plans are rare for the earliest phase, the domestic sphere was at the core of the Kura-Araxes activities. With interiors that conformed to a clear code of practice, the house had several functions. It was a discrete unit that encompassed household economical tasks, yet at the same time it was replete with symbolism and the focal point of ritual activity. Cereals were stored and food was processed in the house, and judging by the amount of material discard, crafts were also undertaken in close proximity. But the most conspicuous activity was ritual that centred on the hearths, both fixed and portable, which mediated symbolic messages (see following discussion).

Only a handful of sites have yielded traces of the earliest Kura-Araxes structures. The most important is Berikldeebi where an early phase of the Kura-Araxes, a poorly preserved deposit (Period IV), was established on the large Late Chalcolithic mud-brick structure. This superimposition is rare and significant, doubly so because we only have one radiocarbon reading for Level IV (3715–3618 cal BC), derived from a charcoal sample and analysed by the Leningrad Laboratory (LE-2197).⁶⁶ Even so, we need to use this spot date with caution. Although the numerous pits dug during the later Bedeni period (Period III) and more recent foxholes have caused substantial damage to the Period IV settlement, its stratified remains are nonetheless important. The excavators distinguished two building levels (IV1–IV2), which once covered the entire site. Specifically, the key vertical relations of Period IV to the earlier Period V are: (a) the north-east side of Building 1, found superimposed over the mud-brick house of Period V; (b) the remains of hearth Nos. 2 and 3 over Pits 151, 240, 241 and 229.

Building 1 was partially preserved, with remnant walls rising no more than 25 cm. Judging by the surviving segment of the structure, it was large and roughly circular in plan (9.5 x 8.5 m). Its wall was built on a framework of posts and plastered on the interior with fine clay, which fragmented and vitrified when the building burnt. The beaten earthen floor was also coated with plaster numerous times. No trace of the roof has survived, but it is likely to have been pitched and lightweight. Upon entry into the building, a visitor would have noticed a fixed hearth (no. 1), embedded into the floor just off-centre. The hearth comprised a basin (ca. 180 cm in diameter) and a plastered, cylindrical pit in its middle, silted up with fine clay. Nearby were the fragments of a low

⁶⁶ (LE-2197) 4850 ± 50 BP, Kavtaradze 1983: 31; Sagona 2014: 34.

plastered platform, which showed signs of burning from usage. Arranged along the north-west wall were fragments of ceramic vessels and lids.

Another hearth (no. 2), this time oval-shaped, was fixed into the floor of Building 2, located in the north-east sector of the site. This feature also had associated fragments of portable horseshoe-shaped andirons and ceramic vessels. Five other fixed hearths were found in this area (Square CF). Two are noteworthy. Hearth 3 was found under the remains of a plastered floor in the north-west corner of square CF 56 and had been deliberately sealed over with a layer of dense clay. Hearth 7, on the other hand, was situated in the south-west corner of square CF 03. Its significance lies in the fact that it cut into the north wall of the Late Chalcolithic 'Shrine'. This important observation, made by Dzhavakhishvili, clearly indicates that the Kura-Araxes building heated by Hearth 7 was erected directly over the remains of the 'Shrine', which is pivotal in determining the stratigraphic relationship between Period IV (Kura-Araxes) and the previous Period V (Late Chalcolithic).

Grmakhevistavi, the scene of salvage operations near the Armenian border in southern Georgia, had two phases of the formative Kura-Araxes. Rostom Abramishvili and his team exposed some 100 pits, of which only 4 (Pits 15, 29, 47 and 76) were assigned to the earliest Kura-Araxes period; the rest of the pits and 4 tombs were assigned to the later, established Early Bronze Age.⁶⁷ No coherent architectural plans were discerned, though some of these early pits could be justifiably interpreted as remnants of semi-subterranean dwellings. They were large in size and curved, and contained in situ domestic material, including fragments of horned portable andirons. Abramishvili also carried out rescue excavations at Treli, situated on the outskirts of Tbilisi, but only fugitive traces of the settlement were found: pits, postholes, a floor, and an earthen pit burial.

Early wattle-and-daub architecture can be found at Khizanaant Gora in Shida Kartli.⁶⁸ Although only partially excavated, Khizanaant Gora provides us with a useful developmental sequence of architecture: nineteen houses were exposed in Levels B–D; no dwellings were delineated in E, the earliest phase. Level D yielded the remains of four freestanding huts with posthole patterns that indicate that they were round, recalling the mud-brick complexes of the Neolithic period. Walking inside one of these Khizanaant houses, one would have been struck by their colour; both the floors and walls were painted red, bringing to mind the practice of ochre-painted interiors from Neolithic Anatolia.⁶⁹ An outer wall of fence posts enclosed Huts 15, 16 and 19, while Hut 18 was surrounded by a row of stones. The purpose and extent of the outer

⁶⁷ Abramishvili et al. 1980.

⁶⁸ Kikvidze 1972.

⁶⁹ Kikvidze 1972: 94. For Neolithic Anatolia and the use of the colour red, see Sagona and Zimansky 2009: 107–9.

wall are unclear, though Hut 16 does appear to foreshadow the later development of a main room with an annex. The diameters of the inner rooms range from 2.75 to 3.5 m. Each hut had a round hearth with a clover-leaf-shaped centre set into the middle of the floor. Two rows of posts, probably supporting wickerwork screens that partitioned storage areas, represent the only fixed internal features.

The earliest deposits at Mokhra Blur (levels XI–IX), with its small circular buildings, could well belong to this formative phase, but we must await final publications to be sure.⁷⁰ Likewise, the round structures exposed during the early campaigns at Kültepe (Nakhichevan) cannot be assigned to this phase with any certainty.⁷¹ An exploratory sounding at Sos Höyük, which reached natural gravelly soil, revealed the earliest occupation deposits (Period VA) – a series of burnt floors and large stones associated with a twin-horned portable pot stand and a well-fashioned stone blade displaying extensive use wear.⁷² A radiocarbon reading of a sample collected at the base of the sounding suggests that the settlement was established in the second half of the 4th millennium BC at the western boundary of this formative period.⁷³

Later Settlements: Diversity in Plan and Construction

Domestic architecture during the rise of the Kura–Araxes is characterised by a number of distinctive traditions. House remains are now more plentiful and are our primary source of information about the built environment. The domestic domain was where Kura–Araxes villagers developed their identity and ideologies. Behind the walls of their homes – built of mud bricks, stone, or posts, these communities shared and negotiated their enduring cultural values. Their houses ranged in plan from single-roomed circular structures (occasionally with an attached rectilinear annex) through freestanding rectangular arrangements to juxtaposed units. And they were built in the plains, on natural bluffs, and on mountain slopes where they were skilfully terraced. Despite these variations, which reflect a combination of ecological factors and diverse regional traditions, the internal organisation of space, the location of activity areas, and the positioning of fixtures such as hearths remained remarkably consistent. This indicates that the social significance of a house was expressed at both a practical and a symbolic level.

Looking at settlements overall, the lack of significant variability in the size of structures suggests local leaders did not express their social status through

⁷⁰ Areshian 2005.

⁷¹ Kushnareva 1997.

⁷² Sagona and Sagona 2000: 58.

⁷³ Calibrated to a 2-sigma accuracy, the reading is Beta-120452: Cal BC 3500–3435, 3385–3285, and 3245–3105.

architecture. In fact, in most Kura-Araxes villages it is difficult to identify a house that might have belonged to a village chief or leader. The status of such figures quite likely derived instead from access to resources, or perhaps land and livestock. In the few cases where size differences are evident, the structures could just as easily be explained as community meeting houses, or even shrines. Perhaps Kura-Araxes communities had some form of group leadership, a heterarchical social organisation based on kinship. There is no point in speculating too far, suffice to say that the architecture and its fixtures appear to reflect equality.

Freestanding Wattle-and-Daub Structures

Post-built houses comprise an open framework of load-bearing timber uprights, secured in post-pits, with outer walls constructed of wattle and daubed with clay. It is likely these structures supported a thatched roof, though this has yet to be definitively confirmed. The highest concentration and best examples of wattle-and-daub houses are found in the plains, especially in Shida Kartli, at the villages of Kvatskhelebi, Khizanaant Gora, Tsikhiagora, and Gudabertka.⁷⁴ Beyond the Caucasus, this type of post construction has been found in east-central Anatolia, in the Turkish Upper Euphrates region, most notably at Arslantepe (Period VIB1), Norşuntepe (Levels 23, 20–14), Değirmen-tepe (Levels III and I), and Taşkun Mevkii (Phase 3).⁷⁵ Post frameworks have also been detected at Godin Tepe, where the earliest phase (IV2) revealed remnants of small structures.⁷⁶

The settlement of Kvatskhelebi was completely excavated and affords the clearest plan of any village of the post construction type. Covering an area of approximately 60 x 50 m, the hamlet comprised detached houses arranged in close proximity to each other (Figure 5.3). An earlier settlement (Level C) had twenty-five buildings grouped into three main blocks separated by alleyways with a north-east to south-west orientation. Twenty-two houses were built with wattle-and-daub; three had walls of mud-brick. Around 2400/2300 BC, the village burned and was only partially re-built (Level B).

House plans at Kvatskhelebi were uniform: a square main room with rounded corners and an attached rectangular vestibule. Access to the house was through the porch, which had a doorway in either its main or its side wall. These annexes and several large jars half buried in the soil adequately met storage needs. Most houses had a stone or clay step on the outside of the

⁷⁴ Dzhavakhishvili and Glonti 1962 (Kvatskhelebi); Kikvidze 1972 (Khizanaant Gora); Makharadze 1994 (Tsikhiagora); Mindiashvili et al. 2012 (Gudabertka).

⁷⁵ Arslantepe (Frangipane 2000: 448); Norşuntepe (Hauptmann 2000: 428, table 1); Değirmen-tepe (Duru 1979: 70, 72; pls 69, 71); Taşkun Mevkii (Sagona 1994a: 5–6).

⁷⁶ Rothman 2011: 160.

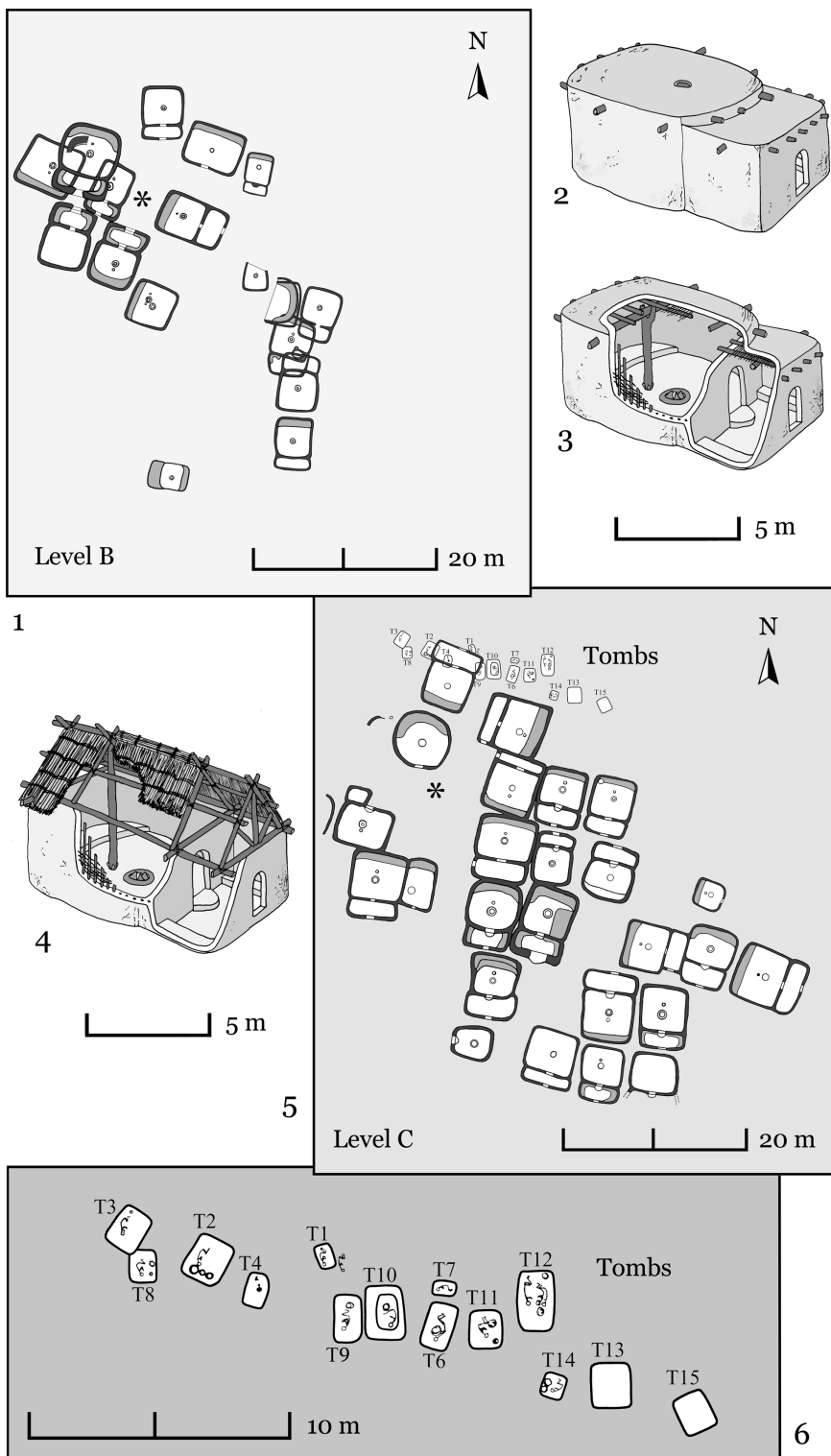


Figure 5.3. Kvatskhelebi: (1) Level B; (2–4) reconstructions of a standard Kvatskhelebi house; (5–6) Level C with enlargement of tomb area; (drawn by C. Sagona after Glonti et al. 2008).

threshold. Individual houses had between 25 and 40 m² of floor space, about a quarter of which was used for storage. The interior walls were coated with clay. Wall fragments from a wattle-and-daub building at Gudabertka yielded traces of wall paintings executed in fugitive red and black paint.⁷⁷ Floors at Kvatskhelebi were lime-plastered and often concealed a layer of river pebbles that were embedded into the earth. Most of the dwellings had wattle-and-daub structures supported on a wooden post framework driven into the ground and secured by stones; the thickness of the walls ranged between 30 and 40 cm. Dzhavakhishvili believes the roofs were flat, but taking into account the considerable amount of rain this region receives, it is quite likely that they were sloping gabled roofs, similar to those of the house models from south-eastern Europe.⁷⁸ Even so, a clay model affords some understanding of the walls (Figure 5.4(2)). An upright probably supported a matted roof. The village at Gudabertka comprised several of these post-houses, surrounded by a thick mud-brick wall, possibly a boundary wall.⁷⁹

Standardisation is also apparent in the internal layout of Kura-Araxes households. As a rule, a circular clay hearth with a clover-leaf-shaped centre and upward projections was built into the floor in the middle of the main room. Houses from Kvatskhelebi Level C1 had a second, similar hearth placed in a corner of the room. Each main chamber was also fitted with a bench against the back wall. The forecourts, too, were generally furnished with benches for storage: either two set opposite each other along the front and back walls, or four with one placed on each wall. The constraints of space probably meant that deployment of household goods and the social organisation and activities within these houses were well defined. Accordingly, household possessions were generally arranged on the bench along the wall, not far from the hearth and kitchen utensils. House 1, in Level C1, did not conform to the standard plan, and the excavators suggest its purpose was ritual (see following discussion). A similar attribution was made for the oval room at Gudabertka.

East of Kvatskhelebi is Tsikhiagora, where two significant layers were exposed in the lowest cultural deposit (Level I).⁸⁰ The uppermost, Layer A, with two building horizons, attested to the co-existence of the Kura-Araxes and Bedeni traditions (addressed in Chapter 7); a thin deposit of sterile soil separates it from Layer B, incorporating building horizons 1 to 3, from top to bottom, which measured 60 cm in depth. Level B2, which ended in a violent fire, is the best preserved. Many of the architectural features noted at Kvatskhelebi can also be seen at Tsikhiagora – a broad rectangular central

⁷⁷ Munchaev 1994a: 33; Mindiashvili et al. 2012.

⁷⁸ Dzhavakhishvili 1973: 113–30, fig. 13. Post-houses were the norm in the European Bronze Age, see Brück and Fokkens 2013.

⁷⁹ Mindiashvili et al. 2012.

⁸⁰ Makharadze 1994.

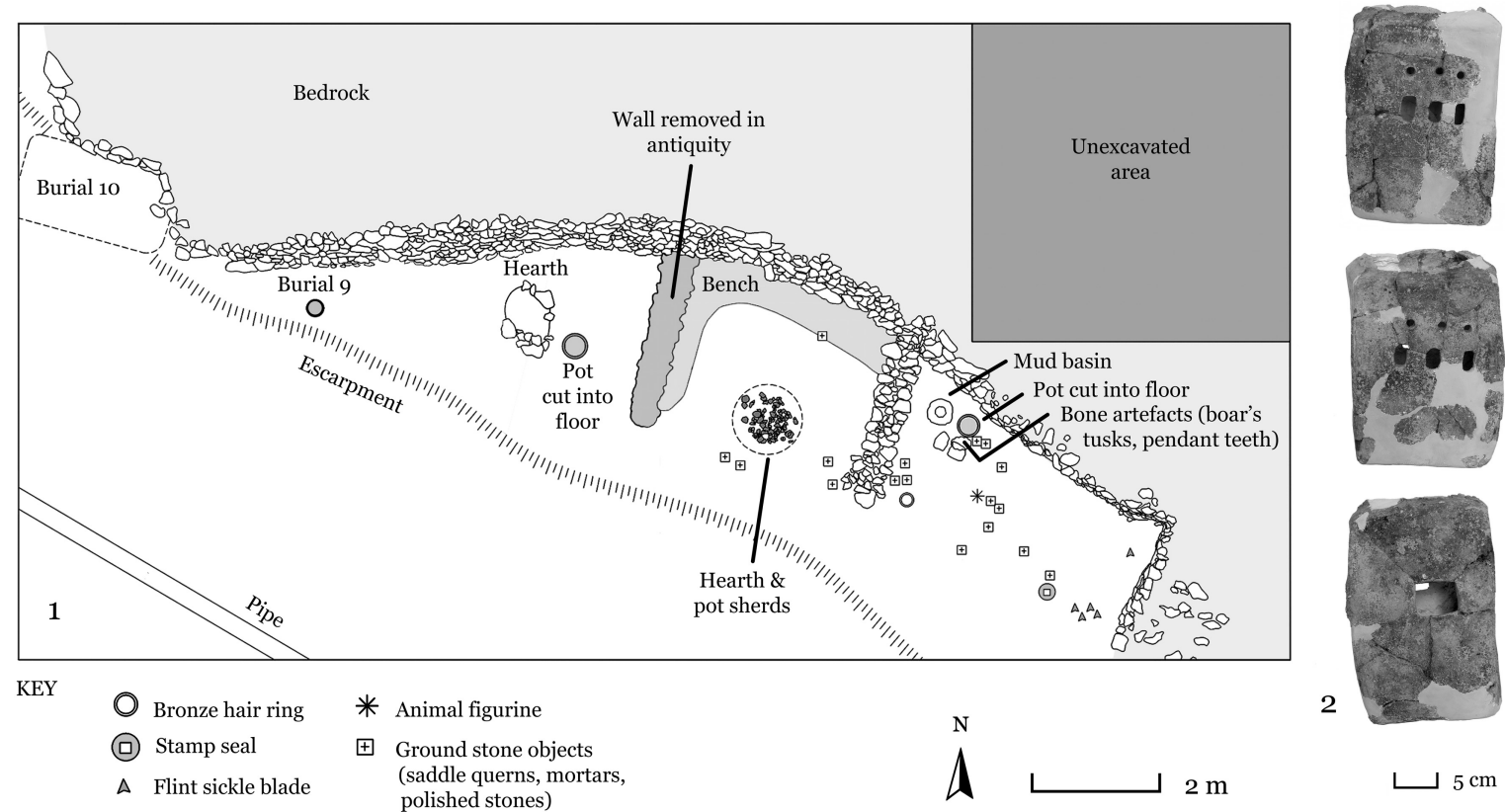


Figure 5.4. Chobareti, Structure 4 and clay model of a house from Kvatskhelebi Level C (created by M. Hutson, C. Ogleby and C. Sagona; photographs A. Sagona).

room with strongly rounded corners, fitted with a large round hearth embedded in the floor, and a load-bearing pole.

At Khizanaant Gora C1–2 house forms evolved and were now roughly square with rounded corners.⁸¹ Most had a rectangular vestibule attached to one side and a central hearth. The average main room had a living area of 8.75 m², which is about half of that available to the occupants of the following phase. Other architectural developments occurred in Level B. These include a storage platform along the back wall, a clay threshold and the use of stone foundations for outside boundary walls, each of which are mirrored at Kvatskhelebi. Circular hearths were still requisite fittings.

Wattle-and-daub structures have often been associated with mobile communities and economic strategies that included either transhumance or a form of nomadism.⁸² Roger Cribb has argued that such homes reveal similarities in settlement patterns and house forms with tent communities, even though nomad tents have more open space around them than do these prehistoric Caucasian structures. Moreover, he pointed out that, based on ethnographic research, highlands tents can be quite substantial and secure structures, varying considerably in method of construction depending on the purpose of the settlement.⁸³ The most common tent types are, in fact, composite dwellings that combine durable components with perishable material. A nomad tent, with its constrained internal area, also enables us to speculate on the social organisation within the household. Qashqai tents, for instance, are rather formally divided along the midline, with domestic and family activities taking place on one side of the tent and the entertainment of visitors in the opposite half. Other nomads, however, prefer a system whereby the space within and around the tent is utilised for different purposes and divided accordingly into domains by temporary partitions. Despite this intriguing comparison, we have yet to establish through zooarchaeological evidence the degree to which Kura-Araxes communities might have been mobile. Even so, it is possible that Kura-Araxes groups adhered to long-held familial customs concerning domestic structures and spaces, regardless of whether the houses were permanent or temporary.

Villages of Circular Structures

Round houses present us with a different character. They have been found over a wide area, but there is a heavy concentration in the Ararat Plain in Armenia, and in Nakhichevan. Further south, circular buildings appear in north-west Iran, most notably at Yanik Tepe.⁸⁴ Generally, these round structures were built

⁸¹ Kikvidze 1972.

⁸² Cribb 1991: 137.

⁸³ Cribb 1991: 84–112, 220–3; see in particular his tent types 4 and 5, fig. 6: 14.

⁸⁴ Summers 2013a.

with mud bricks set on substantial stone foundations, though in the higher altitudes, at sites such as Elar in Armenia and Galgalatli in Dagestan, only stone was used.⁸⁵

Size varies greatly from houses with a floor area of approximately 12.5 m² (2.3 to 4.0 m in diameter), as seen in the earliest levels at Mokhra Blur (Levels 11–9) and Kültepe Level II, to large structures with diameters measuring 13 m (Kültepe Level II) and 7.5 m at Ozni, where Kuftin found circular hearths embedded into the floor, an andiron, and a red-painted, rectangular incense burner.⁸⁶ Most commonly, round houses ranged in size from 5.2 to 7.5 m in diameter. The general chronological trend appears to be a progression from small to large round houses, with rectangular annexes gaining popularity with the passing of time. Occasionally there are variations of the standard features, such as the pebble floor at Mchadijvari Gora.⁸⁷

Early excavations at Shengavit exposed a large area, but fell short of a clear stratigraphic sequence, a problem that has been rectified by the recent Armenian–American project.⁸⁸ Large exposures made during the early excavations have provided us with a good idea of the settlement layout. Twelve circular houses and one apsidal structure, inter-connected by walls, form a densely packed settlement with no obvious routes of communication, a situation recalling the Yanik Tepe and Köhne Shahar (Ravaz) complexes. At Yanik walls were one mud brick thick, sometimes two, with thresholds higher than the house floors. A central pole supported the roof of the larger circles that measured up to 5 m in diameter and covered an area of 23.5 m². Such a large expanse would have required a light superstructure probably comprising a domed roof of withies daubed with mud.⁸⁹ Internal features included low mud-brick partition walls, platforms, and kitchen facilities always positioned to the right of the entrance.

The deep sequence at Mokhra Blur (Armenia) provides another very useful snapshot of the evolution of Kura–Araxes villages in the Ararat Plain.⁹⁰ When Mokhra Blur was founded (Levels 11–9), the hamlet comprised small, free-standing round houses. Then, in the second cultural phase (Levels 8–4), the size of houses grew markedly as did the thickness of walls, now often two courses across; annexes, too, were often attached. The focal point of this settlement, however, was an impressive stone tower that survives to a height of greater than

⁸⁵ Khanzadian 1979: 151; Gadzhiev 1989: figs 2–6.

⁸⁶ Areshian 1978; Zhorzhikashvili and Gogadze 1974: 30–41, pls 39–63; Abibullaev 1961.

⁸⁷ Tsitlanadze 2008: fig. 4: 2.

⁸⁸ Baiburtian (1939, 2011) initiated investigations between 1936 and 1938. Sardarian (1967) continued excavations from 1958 to 1983, and since 2008, Simonyan and Rothman (2015) have renewed investigations. For a well-illustrated and informative catalogue of the Shengavit material held in the Yerevan Historical Museum, see Badalyan et al. 2015.

⁸⁹ Summers 2013a: 15.

⁹⁰ Areshian 1996.

4 m. At the very top of the tower lies a basalt monolith 4 m in length, which in its day presumably stood upright.⁹¹

Round houses have also been found at Norabats (Armenia), a small hamlet measuring no more than 0.5 ha in area. The plan of the excavated area shows a handful of freestanding circular structures – two large (about 7.5 m in diameter) surrounded by six smaller ones.⁹² Apparently, some had curvilinear annexes. Importantly, according to Areshian, the distribution of artefacts in the buildings and annexes shows that the various areas had different functions. The internal area around the hearth was used for cooking and eating, whereas the annexes were primarily used as storage spaces, for the initial processing of food, and also for tool-making. The larger structures had a central hearth, while one of the smaller buildings (no. 8) had a hearth and oven partially built over by the wall, which according to Areshian reflects a foundation ritual.⁹³ Circular walls have been also reported at Ada Blur (Level I), Agarak, Garni, and Dzyanberd.⁹⁴

Twenty-eight circular houses representing the full range of sizes were exposed in the deep (9 m) Kura-Araxes deposit at Kültepe (Nakhichevan). They invariably had a round hearth fixed into the centre of the floor and occasionally a rectangular clay oven was set against the wall.⁹⁵ Some houses were partitioned in two, though the function of the respective halves is unknown; others had a mud-brick bench running around part of the wall. Curious variants of this group are found in Georgia: the ‘keyhole-shaped’ structure at Tetri Tskaro, comprising a pebble-paved circular building with rectangular annex; and the semi-circular rooms with attached angular outhouses built of *pisé* from Samshvilde.⁹⁶ At Garakepektepe, floors were painted red, recalling the earlier practice at Khizanaant Gora D.⁹⁷

Stone and Mud-brick Rectangular Houses

Houses built entirely of field stones, or with walls of mud brick are similar in plan to the wattle-and-daub structures – square room with annex. They are dispersed over a wide area and do not appear to cluster in any one specific region, though there are quite a few in the Anatolian Upper Euphrates. Structurally, they can be freestanding, or abut each other, sharing a party wall. Amongst the most interesting sites is Pulur (Sakyol) now submerged beneath

⁹¹ Areshian and Kafadarian 1975.

⁹² Areshian 1978, 2005; Areshian and Kafadarian 1975.

⁹³ If this is correct, it provides the only instance of such a ritual. Another possible interpretation is that the hearth and oven belonged to an earlier building horizon that was superimposed by the building no. 8.

⁹⁴ Tumanian 2012; Areshian 2005: 79.

⁹⁵ Abibullaev 1965a.

⁹⁶ Gobedzhishvili 1978; Mirtskhulava 1975.

⁹⁷ Ismailov 1972: 480.

the waters of the Keban Dam reservoir.⁹⁸ Hamit Koşay distinguished a thick Kura-Araxes cultural deposit with eleven building levels, the most impressive of which was Level X (Houses 70–90). Houses were adjoined and arranged in a radial fashion around the perimeter of the mound, conforming to the *Anatolisches Siedlungsschema* of the western regions. They were single-roomed and opened out onto a large central courtyard. Their fittings, however, are standard Kura-Araxes household elements – mud-brick benches and platforms, central hearths embedded into the earthen floor, and ground stone tools. Houses 79, 80, and 83 had rich deposits, leading to the attribution of ‘shrines’. This duality, which combines a south Caucasian sense of domestic space with a western Anatolian concept of village layout, is unique.⁹⁹

Terraced Settlements

Sites located on the slopes of hills adopted a distinctive form of settlement planning that included terracing. Amiranis Gora, in the Samtskhe-Javakheti region, for example, is made up of no less than ten occupational terraces stretched along a mountain slope. At Harich (Armenia), three terraces were reinforced by massive stone walls, and at Chirkeisk (Dagestan), twenty stone houses were constructed on a terraced slope.¹⁰⁰ Two sites provide the clearest evidence for these highlands sites: Chobareti (1600 m asl), located in the Samtskhe-Javakheti region, and Gegharot (2,100 m asl), in the Aragatsotn province of Armenia.¹⁰¹ A presentation of the Chobareti settlement will suffice.

Situated in a saddle on the slope of a mountain, Chobareti commands a strategic position, overlooking the valley below and, just over the mountaintop, the Kura River valley, not far from where it meets the Uraveli. Excavations have so far exposed four buildings (Structures 3–6) with stone built lower walls and possibly wooden superstructures. The floor levels of three fully exposed buildings were very well preserved.

One building (Structure 4) is unusually large (Figure 5.4(1)). Although its southern half was dug away when a pipeline corridor was constructed, its dimensions remain sizeable – it measures 15.3 m in length and its maximum preserved width is a few centimetres short of 4 m. It has a well-preserved, curvilinear north (back) wall built of small field stones set up against an earthen face. Two short internal walls compartmentalise the structure into three adjacent rooms. The interior of Structure 4 displays some of the standard fittings of a Kura-Araxes building: fragments of horseshoe-shaped andirons, a stylised horned animal moulded from clay, pale-coloured (monochrome) pottery

⁹⁸ Koşay 1976.

⁹⁹ Sagona and Zimansky 2009: 184.

¹⁰⁰ Chubinishvili 1963; Khachatrian 1975: 34; Gadzhiev 1987: 29; 1989: 26, 29.

¹⁰¹ Kakhiani et al. 2013; Badalyan et al. 2008; Badalyan et al. 2014: 152–69.

vessels, as well as black and red ceramics, which are in the minority and are otherwise largely found in the upper deposit. Judging by the number of ground stone saddle querns and concentrations of carbonised cereals in Structure 4, the inhabitants clearly processed food within its walls, especially in the eastern room. Grinding stones are heavy, tough tools, able to resist a fair amount of manhandling. Yet while some examples were found intact, indeed in situ, others are fragmented. This raises the interesting possibility that certain grinding stones were intentionally broken, a practice well documented in south-eastern Europe.¹⁰² Conspicuous breakage is not a practice that is generally associated with the Kura-Araxes communities, who, if anything, tended to leave items intact. Even so, it does lend itself to the idea that, in the Kura-Araxes world, utilitarian objects had a 'life' and were permeated with a ritual element. The eastern room also yielded a stone stamp seal with geometric incised pattern reminiscent of the Jemdet Nasr period, suggesting connections with distant lands.

Eleven radiocarbon readings and depositional levels confirm two occupational phases for Structure 4 at Chobareti (Figure 5.5). The earlier and more intense period, distinguished by a dark ashy soil, suggests the building was constructed around 3300–3200 cal BC. The two readings (Wk-37351; Wk-37352) were obtained from grain samples collected from the lowest floor. Structure 4 was contemporary to a series of pits and, to judge from a charcoal sample (Wk-34451) collected from a sounding in 2009, to Structure 3 as well. The three dates we have from the upper deposit in Structure 4 (Wk-34457, Wk-34458, Wk-34459), again reckoned from grain samples, are later. They indicate that the building continued to be occupied between 3190 and 2900 cal BC.

Structures 3 and 6, both single-roomed houses positioned on the edge of another terrace, were also replete with material. Both had the usual internal fitments. At some point, a pit was dug into the bench of Structure 3 and several pots and the horn core of a sheep were placed in the depression.¹⁰³ Across the entire floor were a considerable number of in-situ vessels, some positioned on the central hearth. Unlike Structure 4, preliminary analysis indicates that this room did not contain much grain; nor did it have the quantity of grinding stones that were found in Structure 4.

Structure 6, excavated in 2016, has a superbly built back wall of neatly fitted field stones preserved to a height of some 2.2 m, and measures 6 m across. The floor is covered with more than sixty ceramic vessels, many complete and in situ, providing us with a vivid picture of the spatial distribution of activities. Large jars were placed in the western half of the house, especially along the wall, while smaller items were positioned on the low bench that ran along the back wall. Importantly, Chobareti has provided secure, albeit provisional, information on the transition date between monochrome and red-black ceramics.

¹⁰² Chapman 2000a.

¹⁰³ I would like to thank Rémi Berthon for the identification of the horn core.

OxCal v4.2.3 Bronk Ramsev (2013): r:5 Int Cal 13 atmospheric curve (Reimer et al. 2013)

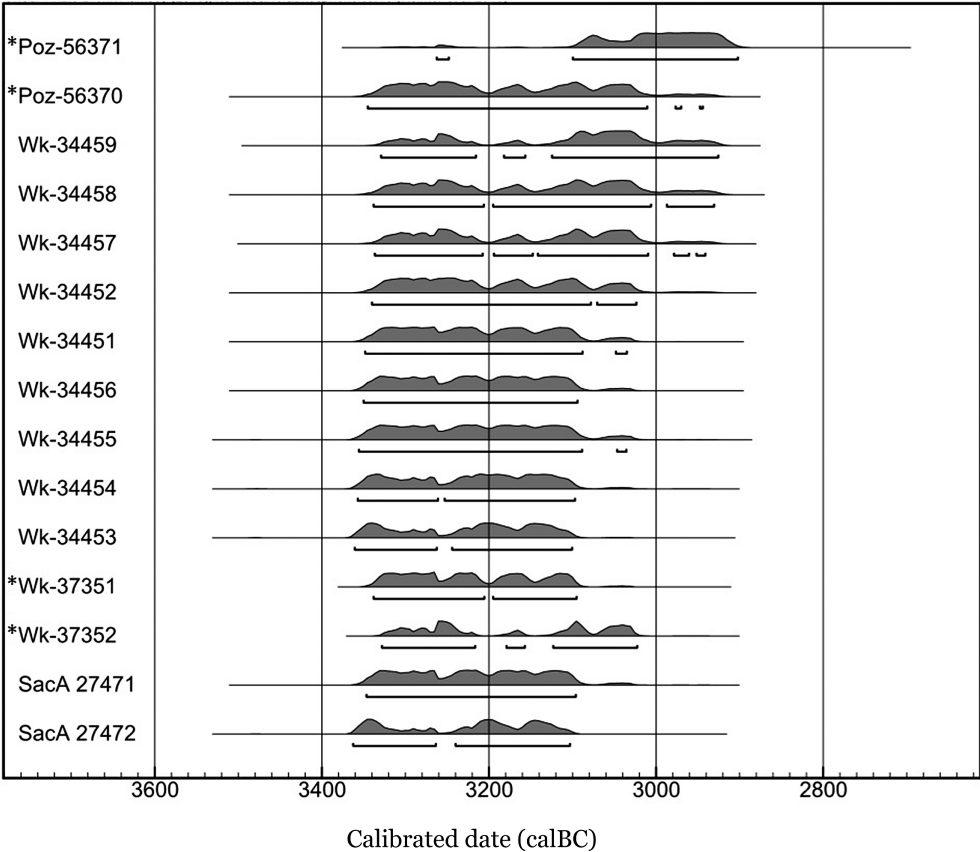


Figure 5.5. Chobareti radiocarbon dates.

While Structure 3 and phase one of Structure 4 date to 3300–3200 BC and have predominately pale brown ceramics, Structure 6 has mostly red-black vessels dated to the period 3100/3000–2900 BC.

Another distinctive feature of Chobareti are its fifteen pits. For the most part they are pear-shaped, though their complete form is often difficult to discern, owing to erosion and modern destruction. One example (Pit 14) reaches a depth of 1.80 m, but most are half that size or less. That a number of pits were used for storage purposes and later for the disposal of waste is clear, though we must also consider whether some pits were also used for ritual purposes, as indicated by their structured deposits.¹⁰⁴

Semi-Subterranean Structures

The settlements at Velikent and Mingechaur represent yet another type – a village of large, semi-subterranean structures (pit houses) that were most

¹⁰⁴ On structured pit deposits, see Chapman 2000b.

likely used by an extended family.¹⁰⁵ At Velikent two mounds, Karsu Tepe and Zemovar Tepe, had pit houses associated with bell-shaped storage pits. Some of the houses were quite large with diameters up to 6 m, and built with mud bricks reinforced with wattle-and-daub structures. One structure, at Zemovar Tepe, was multi-roomed. At Mingechaur houses were rectangular in plan and varied in size, but some measured up to 14 x 8 m. Walls consisted of a post framework daubed with clay, which supported a flat roof. Some of the larger structures had internal partitions that divided the space into three longitudinal sections, and provided further roof support. Floors were paved with pebbles, though shells and pottery sherds were also used as a base that was coated with mud. Although quite different in design and construction, the round stone houses at Gemitulitshch I and II (Dagestan) were also semi-subterranean.¹⁰⁶

Fortifications and Protective Walls

The vast majority of Kura-Araxes sites are not fortified, but a handful do have impressive walls that can be interpreted either as defensive or as perhaps a social boundary. These walls and the investment of resources they represent have significant implications for an incipient social complexity amongst certain communities of the Kura-Araxes cultural province. A few sites in the Ararat Plain have reported large walls, including Ada Blur and Mokhra Blur.¹⁰⁷ At Shengavit, recent excavations have exposed a massive 4 m-wide wall with two faces of basalt blocks and a rubble core.¹⁰⁸ The scale of this wall, plus the small tower and connecting tunnel to the river below, might suggest a defensive purpose. Fortifications are also a feature at Bet Yerah, where the community built an impressive stone and mud-brick system (Fortification B), reinforced with round and square towers, that is dated to the Early Bronze Age III and associated with Khirbet Kerak ware.¹⁰⁹

A substantial wall is also a feature at the large site of Köhne Shahar in western Azerbaijan, Iran.¹¹⁰ Covering an area of around 15 ha, with an equally impressive 2.5 ha citadel, Köhne Shahar has revealed five architectural levels and a massive wall, buttressed with round towers, along the vulnerable northern face of the citadel; the steepness of the slope on the other sides provided natural fortifications. Stratigraphic evidence indicates that the wall was built when the community established the settlement, which an early surface survey indicates consisted of neighbourhoods of round and rectilinear houses separated by clear pathways. Moreover, the excavators have noted that the earliest settlement

¹⁰⁵ Aslanov, Baidov, and Ione 1959; Kohl and Magomedov 2014: 99–101.

¹⁰⁶ Gadzhiev 1989: 33.

¹⁰⁷ Areshian 2005, 2007.

¹⁰⁸ Simonyan and Rothman 2015: 20.

¹⁰⁹ Greenberg et al. 2006; Greenberg and Paz 2005.

¹¹⁰ Alizadeh et al. 2015; for an early 1970s survey of the site, see Kleiss and Kroll 1979.

did not evolve organically, but rather reflects a clearly pre-determined plan. Despite preliminary results, Karim Alizadeh and his team have suggested that the monumental wall points to a defensive purpose, even though expressions of militarism are generally lacking in the Kura-Araxes culture.

The inhabitants at Sos Höyük also felt the need to build a large, curved wall on the crest of the site, shortly after they arrived, around 3500 BC.¹¹¹ The foundation of the wall is constructed with a tight packing of small field stones and hard clay, and measures 2.5 m wide. Although only a quarter of the wall has been exposed, it appears to have encircled the core of the settlement. Given that domestic architecture was built on either side of the wall, its purpose was probably not defensive. Instead, it appears to have defined the centre of the village, and so may have had a socio-political function. Is it possible, for instance, that residents but not visitors had access to the inner area? Disaster struck about 3100 BC, possibly as a result of an earthquake, and part of the wall collapsed. The community did not re-build the structure immediately, as is clearly attested by the remains of three dwellings and floors – a floor composed of crushed pottery, a rectilinear house, and a round house – sandwiched between the two building phases of the wall.¹¹² Around 3000 BC the wall was reconstructed, but it did not remain intact for very long. Shortly after the re-building, it collapsed again and was left in ruins.

It is difficult to ascertain whether these few but massive walls represent defensive works. Their sheer size lends itself to the notion of fortification, yet expressions of warfare are not elements we associate with the majority of Kura-Araxes communities. Greenberg has pointed out that the fortifications at Bet Yerah were built in times of crises, which might also explain the Köhne Shahar wall. As for weaponry, we do have the swords from the elite tomb at Arslantepe, where different dynamics were at play.¹¹³ But in the south Caucasus, well over a hundred Kura-Araxes cemetery sites have not yielded comparable material.¹¹⁴

Another slant to take is to view the walls at Sos Höyük, and possibly Köhne Shahar and Shengavit, as part of a public works project, which had the aim of mobilising labour from a population that in every other respect did not display signs of centralisation or social differentiation. The Great Houses of the Pueblo peoples of south-western America might offer an interpretative analogy.¹¹⁵

¹¹¹ Sagona 2000; Sagona and Sagona 2000.

¹¹² Sagona and Sagona 2000.

¹¹³ Frangipane et al. 2001.

¹¹⁴ For a list of the sites, see Poulmarc'h 2014a. Although the Kura-Araxes complex includes spearheads, the earliest sword in the central south Caucasus, found in one of the barrows at Saduga (Picchelaury 1997: 17), does not appear until the first half of the second millennium BC.

¹¹⁵ I would like to thank Mitchell Rothman for drawing my attention to this possibility and analogy.

Burial customs

Kura-Araxes communities practised a variety of burial rites. In a thorough study, Modwene Poulmarc'h has identified 111 burial sites and 6 tomb types: earthen pit, stone cist, horseshoe-shaped, stone-lined of variable shapes, small cairn, and barrow (or kurgan).¹¹⁶ Few cemeteries belong to the earliest phase of the Kura-Araxes.¹¹⁷ The distribution of the tombs, the burial structures, the nature of the human remains, and the grave goods reveal regional mortuary practices. On the whole, cemeteries were located outside but within proximity to settlements, though at Kvatskhelebi, Ilto, Gudabertka, and Dvin the dead were laid to rest within the village.¹¹⁸ At Chobareti, the eastern end of the site was turned into a cemetery as the village moved westward along the terrace. Other sites, such as Samshvilde and Talin, do not seem to be associated with any nearby settlements. This shift from the practice of burials under the floor of houses heralds a new relationship between the living and the dead. As Palumbi has suggested, extramural burials may signal a new form of territoriality and the re-shaping of the political landscape.¹¹⁹ In terms of grave goods, Kura-Araxes burials reveal a 'sameness' with ceramics, stone tools, and jewellery, and the occasional metal object comprising the main items. None compares to the richness found at the Arslantepe 'Royal' tomb, or the elite burials at Maikop.

1. *Earthen pit*: this type comprises a simple pit occasionally paved with stones, but without structural walls or roof. It has been documented at twenty-three sites throughout the southern Caucasus, with the majority located in the Shida Kartli region of Georgia.¹²⁰ Most graves contained the remains of a single individual, though multiple interments (up to six in Tomb 25 at Aradetis Orgora) were also practised. Earthen pit tombs have been found at, amongst other sites, Kvatskhelebi, Khizanaant Gora, Aradetis Orgora, Urnisi, Dzaghina, Nachivchavebi, and Tiseli Seri.¹²¹ At Kvatskhelebi, the burials showed no signs of disturbance. Skeletons were found fully articulated and lying on their right sides in a contracted position, with the head often to the south.¹²² The community at Aradetis Orgora followed a similar practice, though when a tomb was

¹¹⁶ Poulmarc'h et al. 2014b, based on Poulmarc'h 2014a. Amongst regional studies see, Kalantaryan 2007.

¹¹⁷ Poulmarc'h et al. 2014b: 233 draws the line at 3100 BC for the phase I–II transition.

¹¹⁸ Kvatskhelebi (Glonti et al. 2008); Ilto (Dedabrishvili 1969: 46–8); Gudabertka (Mindiasvili et al. 2012).

¹¹⁹ Palumbi 2016: 23.

¹²⁰ Poulmarc'h et al. 2014b: fig. 4B, and Poulmarc'h 2014a: fig. 250 for a listing of sites.

¹²¹ Glonti et al. 2008 (Kvatskhelebi); Chilashvili 1964 (Urnisi); Kikvidze 1972 (Khizanaant Gora); Koridze and Palumbi 2008 (Aradetis Orgora); Jalabadze and Palumbi 2008 (Takhtidziri); Chikovani, et al. 2010 (Nachivchavebi); Gogochuri and Orjonikidze 2010 (Tiseli Seri); Jalabadze et al. 2012.

¹²² Glonti et al. 2008.

re-opened, the remains of the earlier individual were re-arranged to make room for the recently deceased; some bones were also removed.¹²³ Particularly noteworthy is Kvatskhelebi Tomb 6, because the remains of two young individuals were found lying on the top of the grave, recalling the practice at the elite tomb at Arslantepe.¹²⁴ Whether or not these Kvatskhelebi individuals were the victims of human sacrifice, as was the case at Arslantepe, is difficult to say, owing to the absence of physical anthropological analysis. But the presence of a diadem with a punctate design in the Arslantepe Royal Tomb and another in Kvatskhelebi Tomb 2 supports a connection between Shida Kartli and the Turkish Upper Euphrates. Most of the nine pit graves from Tiselis Seri were poorly furnished and contained the remains of one individual; Tombs 7 and 9, however, were double burials, both of males.¹²⁵ The animal remains found in the graves, especially cattle heads and feet, are interesting, and foreshadow a practice that became popular during later Bronze Age barrow burials. Also noteworthy is Kalavan-1, north-east of Lake Sevan, where the individual in UF2, whose age or sex could not be determined, had his (or her) hands tied behind the back.¹²⁶ This rare practice recalls the later (early Trialeti) burial at Sos Höyük.¹²⁷

2. *Stone cist*: this form is essentially an earthen pit with one or two large stone slabs along both lengths and one slab at either end (Figure 5.6(1)). Two large stone slabs were generally placed across the top to seal the tomb. Here we follow Poulmarc'h in distinguishing between stone cist and stone-lined (Type 3). Only eight sites spread across Georgia and Armenia have recorded this tomb type.¹²⁸ Guram Mirtskhulava and his team excavated thirty-seven tombs at Samshvilde, but only a few (for example, nos. 2 and 3) can be classified as true stone cist; a variation has slabs combined with smaller, irregular field stones.¹²⁹ A small number of tombs were paved with stones; most had an earthen floor. Collective burials appear to be the norm, though it is difficult to discern the number of individuals.
3. *Stone-lined*: field stones, as opposed to stone slabs, were used to line the tomb walls of this type. The shape of these tombs varies from rectangular

¹²³ Koridze and Palumbi 2008. The removal of bones as a secondary stage of a protracted funerary ritual is clearly evident in other periods, especially the Late Antique; see for example Sagona et al. (forthcoming).

¹²⁴ Glonti et al. 2008: 155.

¹²⁵ Gogochuri and Orjonikidze 2010.

¹²⁶ Poulmarc'h et al. 2014b: 236.

¹²⁷ Sagona 2000.

¹²⁸ Poulmarc'h et al. 2014b: fig. 3A, and Poulmarc'h 2014a: fig. 253 for a listing of sites. Cf. Palumbi 2007b for examples in the Euphrates Valley.

¹²⁹ Mirtskhulava 1975.

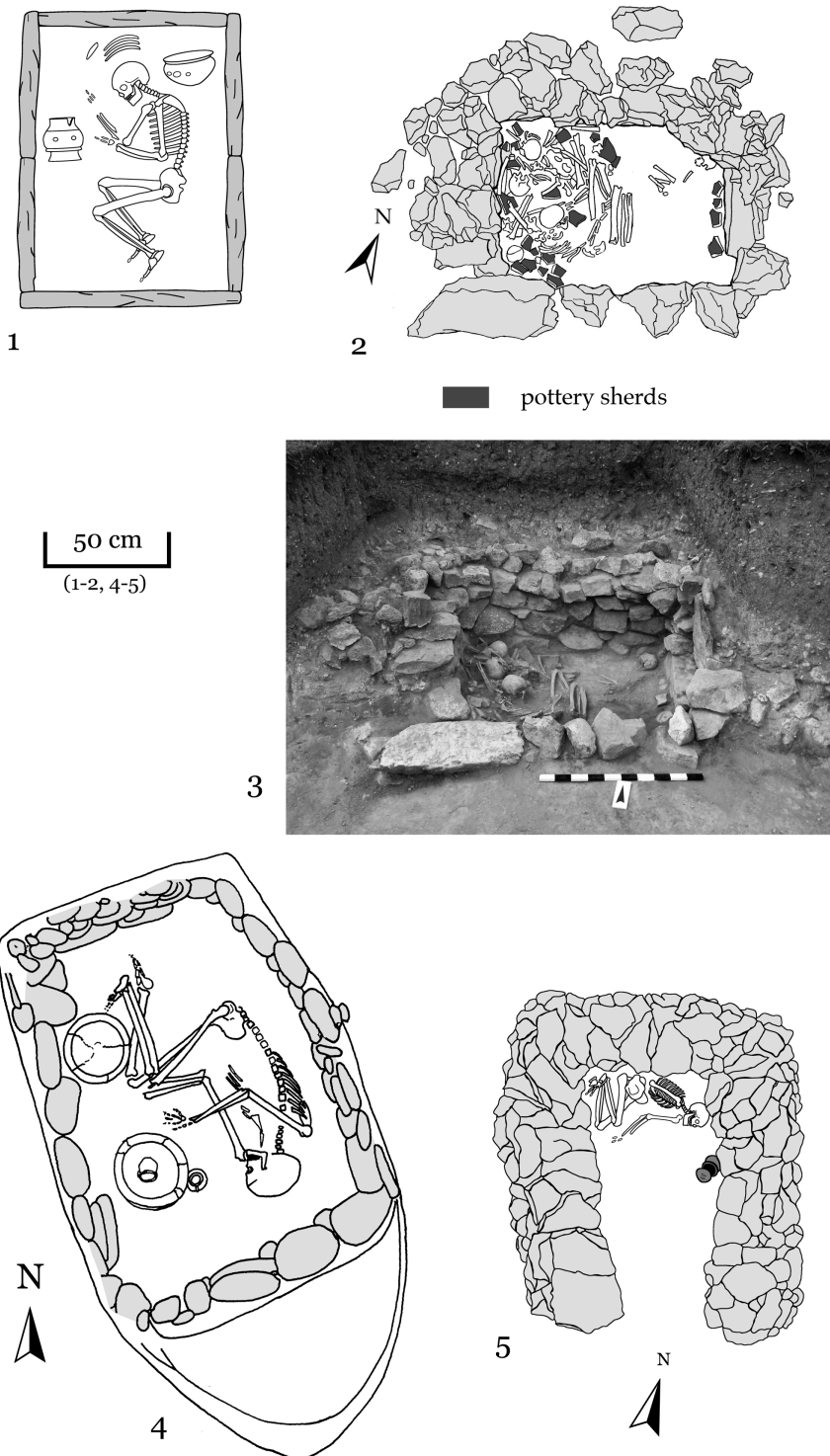


Figure 5.6. Kura-Araxes burial types: **(1)** stone cist tomb, Elar Tomb 10 (after Khanzadian 1979); **(2–3)** stone-lined, Chobareti Burial 2 (after Kakhiani et al. 2013); **(4)** stone-lined, Takhtidziri Tomb 35 (after Jalabadze and Palumbi 2008); **(5)** horse-shoe-shaped, Kiketi Tomb 7 (after Pkhakadze 1963).

and square through oblong to circular. The number of inhumations ranges from one to several events. Stone-lined tombs are recorded at thirty-one sites, with the overwhelming majority located in Armenia and Georgia, and only one outlier in Azerbaijan, at Khinisli, in the eastern region.¹³⁰ At Samshvilde, most tombs were rectangular in form (ca. 2.5 x 1.5 m), though some approached a trapezoidal shape; two (nos. 8 and 12) were small and circular, and each contained the remains of a child. The same can be said for Kvatskhelebi. There was no standard orientation, nor was the construction of the walls formalised, thus blurring the distinction between stone cist and stone-lined. Stone-lined tombs also occur at Takhtidziri (Figure 5.6(4)). Most skeletons at Samshvilde were no longer anatomically connected. The Elar tombs had stones of small size stacked up to three courses high; and at Takhtidziri, Tomb 35 had a few steps leading down into the tomb.¹³¹ Occasionally this tomb type is stone-paved, such as in the case of Burial 1 at Nachivchavebi, which contained the remains of two males, two females, and a female juvenile; Burial 2 had a male, an adult female and a female adolescent.¹³²

At Chobareti, the stone-lined tombs are later than Structure 4 (Figure 5.6(2–3)). The tops of the tombs were sealed with short timber beams and covered with stone slabs. All tombs had an entrance, located either on the eastern side (Tombs 1–3, 7, and 8) or the southern side (Tomb 4), blocked by a substantial slab of stone, which was removed if other occupants had to share the space at a later time. Tomb 2 was the only example of re-use. The remains of earlier individuals were pushed aside, unceremoniously it seems, and the recently deceased was placed in a crouched position. No preference is shown in orientation in any of the tombs, with individuals placed either on their right or left sides, and heads pointing east (Burials 1–3, 8), south (Burial 4), or north (Burial 7). Grave goods were modest. Burial 1, for instance, yielded a ceramic vessel and a spindle whorl, Burial 4 a spindle whorl, and Burial 8 a jar. Attention should be drawn, however, to the practice attested in Burials 2, 5, and 8 of paving the earthen floors with fragments of large ceramic containers, recalling the Sos Höyük VA ‘ceramic floor’. At Chobareti, this feature was presumably part of a specific burial rite.

4. *Horseshoe-shaped stone tomb*: this is a variant of the stone-lined type and examples come from Kiketi (Figure 5.6(5)), Amiranis Gora, and Elar. They date to the late fourth and early third millennia. At Kiketi, the bones of the previously deceased were pushed into the bend of the horseshoe as new occupants were laid to rest.¹³³ The form of these

¹³⁰ Poulmarc’h et al. 2014b: fig. 3B, and Poulmarc’h 2014a: fig. 251 for a listing of sites.

¹³¹ Jalabadze and Palumbi 2008: 118.

¹³² Chikovani et al. 2010: 96.

¹³³ Pkhakadze 1963.

tombs is quite possibly symbolic, given the prominence of horseshoe-shaped hearths in the Kura-Araxes traditions.

5. *Small cairn*: the distinguishing feature is essentially a pile of stones to mark the position of the tomb, usually an earthen pit. Of the fifteen cairns that are documented, thirteen are in Georgia.¹³⁴
6. *A barrow of earth and stone*: also known as kurgans, these mounds are the most widely distributed in space of all the types, and they are recorded at most sites (thirty-two).¹³⁵ They reach from north-west Georgia (Koreti) through the middle Araxes valley to the shores of the Caspian. Most of these mounds are relatively small, averaging about 15 m in diameter and rising no more than 2 m above the surface of the ground. Those in the Mil Steppe, however, are quite large. Both their size and their grave assemblages have suggested to some that they do not belong to the Kura-Araxes horizon.¹³⁶ In general, the chambers the mounds covered varied greatly – an earthen pit (rectangular or round), lined with stone, mud brick, or wood, sometimes with a dromos. The Sapar-Kharaba barrow sealed a horseshoe-shaped tomb containing the remains of a 50–60-year-old male.¹³⁷ Other chambers were constructed on the ground. In some cases, the dead were laid directly on the ground and covered with stones, or the barrows covered no burial at all and were thus cenotaphs.¹³⁸

In one tomb at Osman Bozu, thirty-four individuals were laid to rest on their sides, in a crouched position, together with an array of ceramic containers.¹³⁹ The rectangular stone cist was sealed with wooden beams, four running down the length of the chamber and twelve placed across the width.

The Mentesh Tepe barrow burial containing some forty individuals is no less impressive. It appears that around the mid-third millennium BC, groups of Early Bronze Age villagers made regular use of this early barrow for their own collective burial customs. They dug a large and deep funerary chamber, which they lined with postholes. As the newly deceased were laid to rest, the remains of the older ones were pushed aside. Considering the number of individuals, the barrow contained very few provisions. A distinctive trait found amongst the barrows in north-west Azerbaijan is the burning of the chamber before closure of the barrow, foreshadowing a later Middle Bronze Age custom.¹⁴⁰

¹³⁴ Poulmarc'h et al. 2014b: fig. 7A, and Poulmarc'h 2014a: fig. 248 for a listing of sites.

¹³⁵ Poulmarc'h et al. 2014a: fig. 7B, and Poulmarc'h 2014b: fig. 249 for a listing of sites.

¹³⁶ Munchaev 1975: 171.

¹³⁷ Shanshashvili 2010: 164.

¹³⁸ Kesamanly et al. 1979: 514.

¹³⁹ Kesamanly et al. 1978: 498.

¹⁴⁰ Lyonnet et al. 2012: 94.

Symbolism is also evident at Mayisyan (Armenia) where the remains of three skeletons (a male and two females) were sprinkled with red ochre.¹⁴¹

Another important group of barrow burials from Armenia come from Talin (Burials 7, 10–12), radiocarbon dated to about 3300–2800 BC.¹⁴² These are low mounds, ranging from 80 cm to 1.5 m in height, and covered with a mound up to 25 m in diameter. Burial 1 has a sub-rectangular stone cist chamber built with upright slabs and covered with horizontal flagstones. A narrow corridor, popular in later periods, connected it to the entrance situated on the south-east side. Eight individuals and ten caprid skeletons were found in no particular order in the chamber and within the corridor, accompanied by only two ceramic vessels. Another novel element is the construction of the Burial 10 barrow. The tomb was first buried beneath an earthen mound, which was then encased by close fitting stones, and finally covered by another layer of stones. Barrow 12 revealed an atypical burial structure – a central rectangular platform that carried a human skull and extremities. Another barrow (ascribed no number) has been termed a ‘cultic platform’. Sealed beneath a mound of stone were two rectangular platforms separated by a corridor and edged by a row of stones: the surface of one platform had a gravel floor, whereas the other had a beaten earth surface. The matrix within the barrow was rich in animal bones and pottery sherds, mixed within ashy soil. These variations of barrow burials are not regional, nor site-specific, as is evident at Talin, which has quite a variety. Moreover, they foreshadow developments in the better-known late Early Bronze and Middle Bronze Age barrows.

Sacred Spaces

STRUCTURES

Any attempt to define the sacred in the Kura-Araxes culture will stumble over a number of concepts and soon realise that it is an archaeological conundrum. The enduring anthropological notion of religion can be defined, at its most pithy, as belief systems and practices concerned with the transcendent and sacred.¹⁴³ This encounter with the numinous is generally formalised, meaningful, and a socially cohesive act. Most researchers would agree that religion is expressed in two parts. First, we have the thoughts – or myths – surrounding this human response to the greater ‘other’, which for prehistoric, textless societies cannot be retrieved. The second part is the

¹⁴¹ Areshian 1986.

¹⁴² Avetisyan et al. 2010.

¹⁴³ Rappaport 1999.

action – or cult – associated with the divine encounter. This performance involves material culture, and its residues should, therefore, be identifiable in the archaeological record. For the archaeologist, distinguishing between an action that expresses a sentiment or idea and one that is a utilitarian and technical operation can be difficult. Ultimately, it concerns the identification of indicators of ritual that are embodied within spaces structured to accommodate the social institution of religion. These indicators include symbols, devices for the focussing of attention, markers of boundary zones between this world and the supernatural realm, images of the deity, and equipment and offerings used in the ritual.

A survey of Kura-Araxes settlements will lead to the inevitable conclusion that most sites have largely undifferentiated architecture. There is no obvious and conspicuous building type that was specifically constructed to service the needs of worshippers.¹⁴⁴ Nor do any open spaces lend themselves to the notion of a public arena for ritual behaviour. Instead, we seem to have a situation where, for the most part, the formalised structured space of a house acted, depending on circumstances, as both a ‘sacred’ and a ‘profane’ area, without the need to embody that distinction physically. Some buildings have been tagged as communal ritual places, an interpretation that is based not on the scale or plan of the structures – most have the appearance of a house – but on the accumulation of symbols that fill their interiors. Likewise, we have evidence of a range of activities that are very telling and could be interpreted as religious and ritual in nature.

While cult appears to have been home-based in the majority of Kura-Araxes settlements, it could be argued that a few buildings served as public areas for religion. House 1 at Kvatskhelebi (Level C), approximating a circle about 6 m in diameter, is one such building. Like the other houses, it had a fixed central hearth, but its most conspicuous feature was a red-painted bench that ran along the back of the room. The bench had twelve small pits lined with clay and filled with ash. On top of the bench were pot lids, fragments of a portable hearth (andiron), sickle blades, and an anthropomorphic figurine. Near the bench was the skeleton of an animal with a copper arrowhead embedded in its pelvis. Pottery containers and stone grinders were reported scattered across the floor.

Building 3, a well-proportioned mud-brick building at Godin Tepe IV, has also been interpreted as a structure where the community feasted.¹⁴⁵ It had a platform positioned in its centre, black-painted benches along three walls, a bin filled with ash next to the entrance, and steps that led down into an adjoining room where presumably the food was prepared.

¹⁴⁴ Chubinishvili (1963) speculated that a large building at the top of the mountain on which Amiranis Gora is situated was a sanctuary, but no details are given.

¹⁴⁵ Rothman 2011: 160–7.

At Shengavit, the recently exposed building in operation M5 also has qualities that could lend themselves to a public building.¹⁴⁶ Its internal area – 4 x 2.5 m – is relatively small, perhaps emphasising the solemn activities that were performed in it. Although it has standard Kura-Araxes fitments, collectively they are symbolic of ritual activity: a central clover-leaf-shaped hearth with a ceramic vessel carefully positioned on its edge; a bin filled with ash and burned pottery near the entrance; a raised platform behind the hearth; a saddle quern positioned on a clay basin in the corner; and a large number of ceramic containers used for cooking and display. A similar patterning was found at Pulur (Sakyol), in the Upper Euphrates, where rooms with an otherwise domestic arrangement were replete with striking symbols.¹⁴⁷ Not enough detail is provided in the field reports, but the circular hearth platforms that accommodate a large horseshoe-shaped andiron decorated with human faces in relief is suggestive.

Collectively, there are a number of features at Tsikhiagora that are also noteworthy in this context: thirteen bell-shaped pits filled with ash in Layer A, which the excavator maintains were for ritual purposes; the large size (70 m²) of two buildings in Layer B2, facing each other and separated by a cobble pathway that leads to Building 1; a sun design (circle with rays) etched into the thick clay floor between the pole and the hearth of Building 1, whose main room is almost circular; ochre-stained ceramic containers found on the low platform that ran along the back wall of Building 1; and a cluster of two pottery vessels, a clay figurine of a bull and three flint sickle blades placed in the north-east corner of the anteroom of Building 2.

HEARTHS

There are other noteworthy aspects. The centrality of the hearth as a focal point of activity and attention in a house is unambiguous.¹⁴⁸ A sturdy fixture embedded into the floor of the house, the hearth was often decorated with symbols, usually displaying human or animal elements. These qualities suggest the hearth was accorded a special significance not only as a source of fire, light, and heat, but also as a means of mediating iconographically the powers (or deities) embodied in the depictions.

There are two types of hearths. One is round in shape and sunk into the floor as a permanent fixture. It was constructed *in situ* in the central part of the room and was generally well built (Figure 5.7(1, 5)). The central part comprised a circular pit lined with a thick wall of clay. Around this ash pit, and generally made separately from it, was the flat, wide kerb of the hearth, which lay over the floor; in certain instances, the kerbs were decorated. Some hearths

¹⁴⁶ Simonyan and Rothman 2015: 23–35.

¹⁴⁷ Koşay 1976.

¹⁴⁸ Sagona 1998; Pkhakadze 2000; Sagona and Sagona 2009; Balossi Restelli 2015.

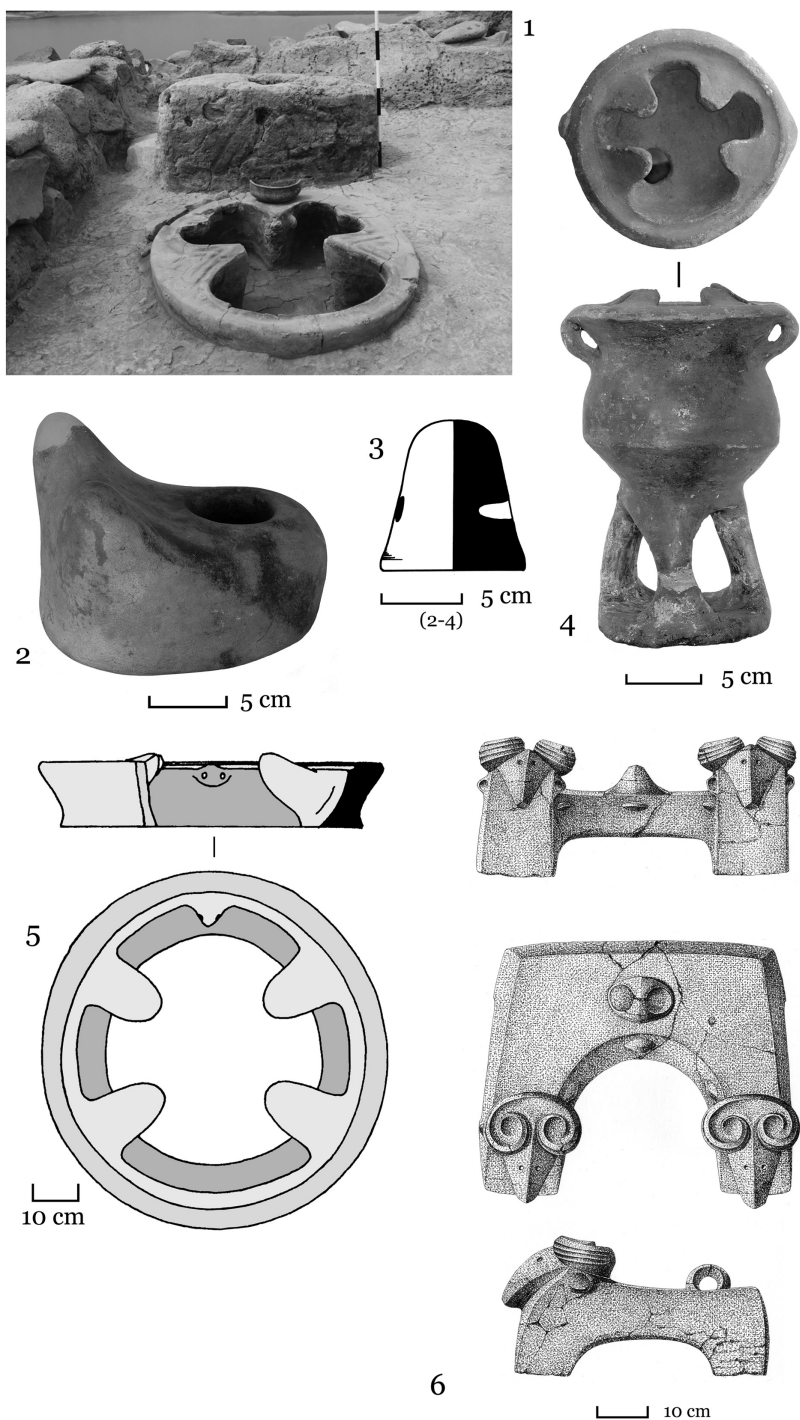


Figure 5.7. Kura-Araxes hearths: **(1)** Shengavit (courtesy M. Rothman); **(2)** Sos Höyük VA, horned andiron (photograph B. Douglas); **(3)** Takhtidziri, andiron (after Jalabadze and Palumbi 2008); **(4)** Kvatskhelebi C2, pedestalled pot with miniature hearth around the rim (photograph A. Sagona); **(5)** Tsikhiagora B2, clay hearth (after Makharadze 2008); **(6)** Karnut, zoomorphic andiron (after Badalyan and Avetisyan 2007).

were also elevated on a low platform, which enhanced further their position as the focal point of the room. The other type of hearth is portable. Also known as andirons, they are effectively stands or mounts that either carried a ceramic vessel or steadied a container when placed beside it (Figure 5.7(2, 3, 6)).¹⁴⁹

It would seem that Kura-Araxes religion was celebrated amongst the family and within the home. Ideas and rites held and practised by families are reflected in the character and positioning of material culture within houses. Like other aspects of this culture, there is little indication that ritual was adjusted and enlarged through either new conceptions or new needs. Instead, when families came together to worship or invoke the spirit world, they continued to practise their belief systems in the manner of their ancestors.

Without texts to guide us, it is virtually impossible to know what type of belief system prevailed. Like in contemporary cultures in Mesopotamia – and even much later cultures, such as that of the Romans – *numen*, power, or will, may have been seen as residing everywhere, or rather as manifesting itself everywhere by action.¹⁵⁰ For cultures that practised animism, the *numen* acts, but the manner of its acting is usually undetermined. Humans are intruders in the realm of the spirit world. For them, there was a need to channel the *numen* to produce the requisite and favourable actions.

To accomplish this task successfully, both Mesopotamians and Romans believed they had to ‘fix’ this awe-inspiring power, to narrow its focus and action. They did so by naming individual phenomena and channelling the energy into desired ends; for example, the Romans worshipped Vesta as spirit of the hearth. Thus, the many activities engaged in by a family and the natural phenomena that enveloped their world were split into many named powers that energised the actions of the household. With naming went prayers, offerings of food and grain, milk and wine, and on occasion animal sacrifice.

This brief sketch of two belief systems that are known to us through texts simply serves as a *possible* model for the Kura-Araxes. Just as the Romans had Vesta, it is not unreasonable to argue, given the prominence of hearths, that the residents of Kura-Araxes households held a similar belief. At some sites such as Berikldeebi and Sos Höyük this importance is underscored by clear evidence for the sealing of hearths and their intentional superimposition. Structured and repeated deposition of objects around the hearth lends support to this idea. At Sos Höyük, for instance, a standardised horned animal figurine was often associated with a well-crafted obsidian projectile point, or a skilfully fashioned bone or antler object. There is one other possible ritual activity; namely, imbibing a hallucinatory substance or concoction such as the fly agaric mushroom.¹⁵¹

¹⁴⁹ Pkhakadze 2000; Smogorzewska 2004. For the interesting idea on the connection between Kura-Araxes and Hurrian as reflected through hearth usage, see Kelly-Buccellati 2004.

¹⁵⁰ Jacobsen 1976; North 2000.

¹⁵¹ Sagona and Sagona 2009.

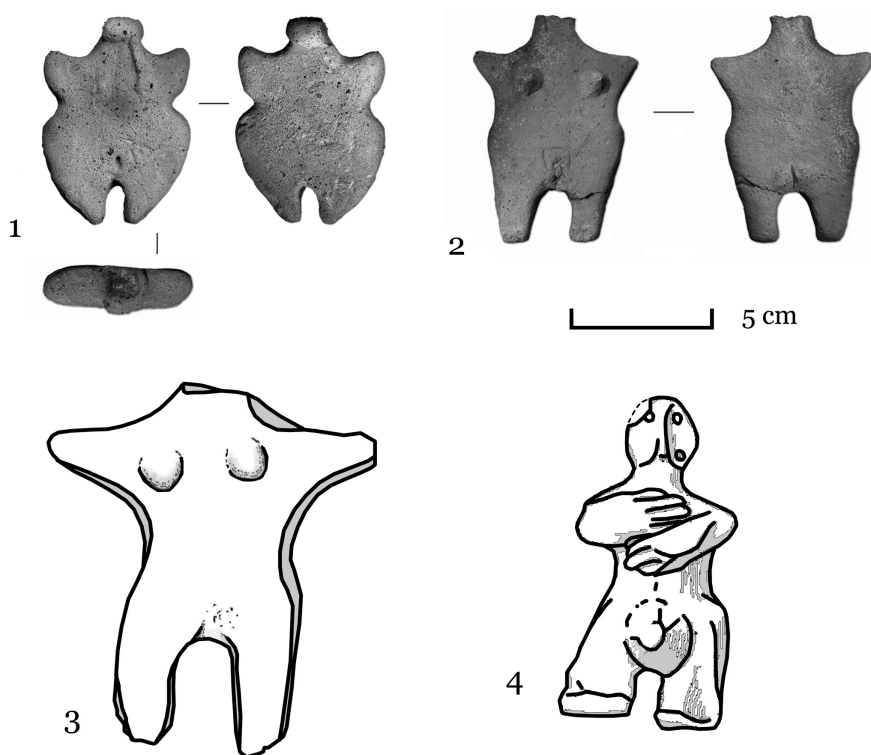


Figure 5.8. Kura-Araxes human figurines: **(1–2)** Agarak (after and courtesy of Badalyan and Avetisyan 2007); **(3–4)** Shengavit (after Simonyan and Rothman 2015).

At the moment our evidence is circumstantial and not botanical or residual. We have some striking decorative patterns – morphing anthropomorphic figures that hint at the natural world and altered states, stylised animals and birds, and spiralling eyes, to mention a few – that are suggestive of a lively and vivid expression of trancelike states. Compared to the ubiquitous and standardised animal figurines, human figurines are rare and appear restricted to Armenia, where Agarak yielded quite a few (Figure 5.8).¹⁵²

Early Ceramics

At present three types of pottery distinguish the early phase.

MONOCHROME WARE

One group has vessels that are thick-walled, gritty in paste, and generally fired at a moderate temperature to a mottled pink and brown surface, or grey brown colour – what Giulio Palumbi calls ‘monochrome’.¹⁵³ Such containers

¹⁵² Tumanian 2012: pls, VI, VIII.

¹⁵³ Palumbi 2008.

have been found throughout much of the southern Caucasus, and belong to what Badalyan terms the ‘Elar-Aragats’ group in Armenia. None has the iconic burnished black and red colour scheme that typifies the later potting industry.

The Grmakhevistavi and Trelı containers are bulbous jars with short everted necks (Figure 5.9(2)), and are quite different in shape from the Kura-Araxes containers represented by a series of single-handled cups, rounded bowls and wide-necked jars manufactured from a grit-tempered clay. The latter forms make an appearance, but are part of a mix (Figure 5.9(1, 3)). Small loop handles are common and are generally placed at the base of the neck on jars and attached to the rim on bowls (Figure 5.9(8)). Lids are a novel form, and are circular and flat with a central small loop handle (Figure 5.9(6)). Decoration is rare in this early period and consists mostly of knobs acting as rudimentary ledge handles. Incised ornamentation is far more distinctive, especially as it is scratched on the surface after firing. Incised pendant triangles are found amongst the fine, well-made jugs from Khizanaant Gora E, in Shida Kartli, where we also find the three-handled water jars, discovered in large amounts at the later Duzdağı salt mine.¹⁵⁴ A comparable assemblage of fine, pink-buff ware has been recovered from Samshvilde Level I, where a similar jug is also decorated along the neck.¹⁵⁵

Elsewhere in the southern Caucasus, this monochrome pottery is found at a number of sites in Armenia, including at Talin (Tombs 7, 10–12), at early Gegharot, in the lowest levels at Horom, and at early Mentesh IV in Azerbaijan.¹⁵⁶ In Armenia, a number of sites have been grouped into this formative phase, but without supporting chronometric dates, it is difficult to say on what side of 3300 BC they fall.¹⁵⁷ Vessel shapes are on the whole similar to those in Georgia and decoration is likewise scarce, comprising dimples, embossed oblique lines, and single or paired knobs. Scratched patterns such as those at Aparan III also belong to this Armenian repertoire (Figure 5.9(4)).¹⁵⁸

ENDURING CHAFF-FACE WARES

Most significant is the small amount of chaff-tempered vessels recovered at Grmakhevistavi, Trelı and Chobareti that are redolent of Late Chalcolithic practices. Let us recall that chaff-tempered pottery continues at Godedzor well into the second half of the fourth millennium, in a context that had no Kura-Araxes.

¹⁵⁴ I would like to thank Catherine Marro for this information and for showing me images of the Duzdağı examples.

¹⁵⁵ Mirtskhulava 1975.

¹⁵⁶ Badalyan et al. 1992; Avetisyan et al. 2010; Badalyan 2014; Lyonnet 2014.

¹⁵⁷ Badalyan et al. 2009: 42.

¹⁵⁸ Badalyan et al. 2009.

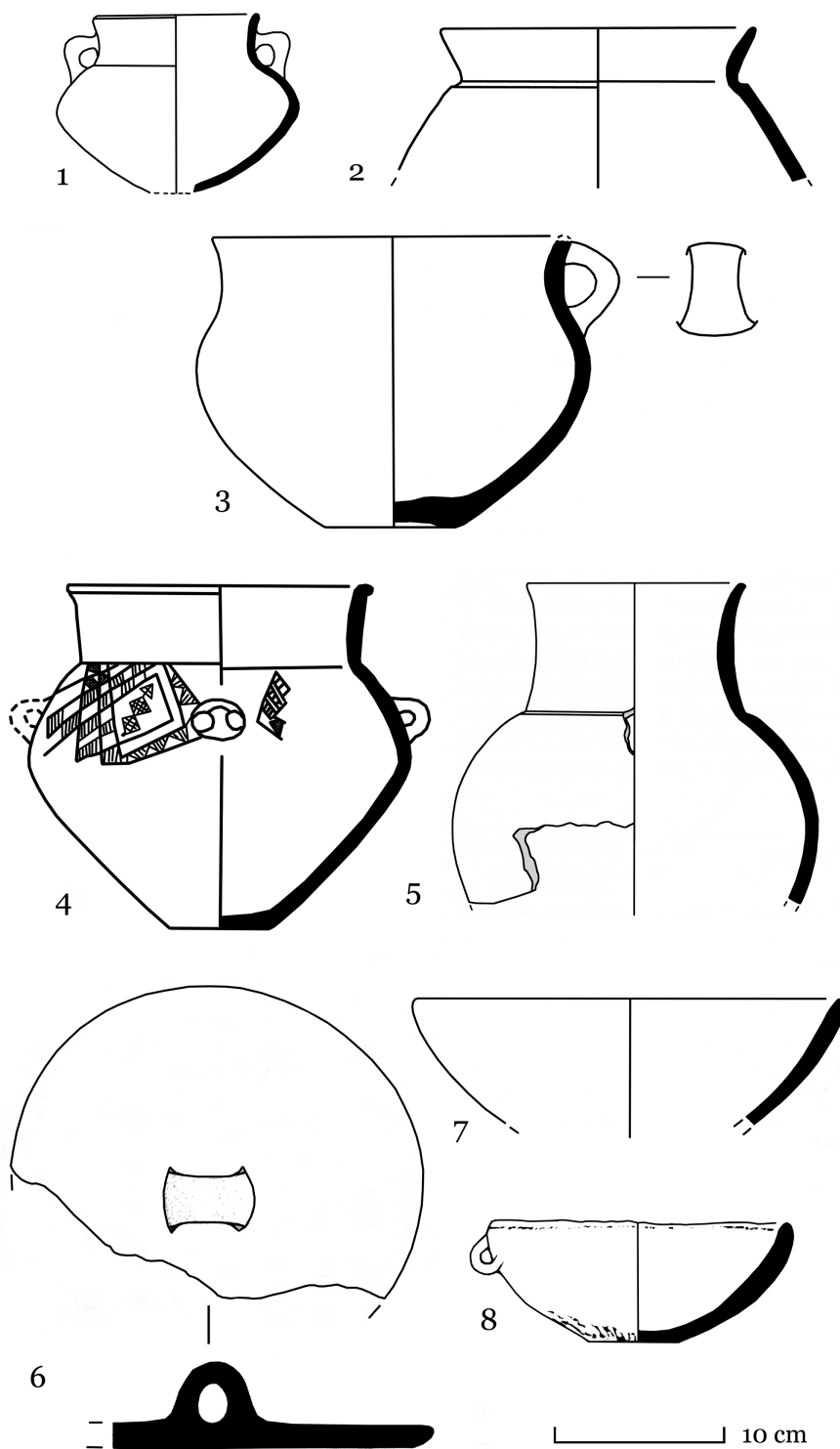


Figure 5.9. Kura-Araxes early ceramics: (1–2) Grmakhevistavi (after Abramishvili et al. 1980); (3, 6–8) Berikldeebi (after Palumbi 2008); (4) Aparan III (Badalyan and Avetisyan 2007); (5) Treli (after Abramishvili and Gotsiridze 1978).

BURNISHED WARES

Another group of vessels are mostly dark in colour, mottled occasionally with patches of pale brown. In contrast to the pale brown (monochrome) group, these vessels have relatively thin walls and are generally well polished on the outside. In the Caucasus, they appear tentatively at the very end of the Late Chalcolithic period at Berikldeebi (Period V), a ceramic horizon dominated by the Chaff-Faced tradition. The few pieces are distinguished by high-shouldered jars with a tall neck that flares outward (Figure 5.9(5)). Similar pieces were found in the lowest levels at Sos Höyük. Dzhavakhishvili referred to the grit-tempered vessels from Berikldeebi as 'Proto-Kura-Araxes', and, according to him, they heralded major cultural changes.¹⁵⁹ The term 'Proto-Kura-Araxes' has been adopted by some, including me, but recently I suggested that perhaps we should be careful about continuing to use it until we accumulate more of a sample.¹⁶⁰ A few fragments of portable hearths found scattered on the floors of Berikldeebi Period V also foreshadowed things to come.

LATE CERAMICS

By 3300 BC, the quantity of pottery increases and so does the variety. Towards the end of the third millennium, around 3100 BC, red-black burnished pottery came into vogue. This red-black horizon from the Kura-Araxes heartland (the southern Caucasus and easternmost Anatolia) should be distinguished from the Red Black Burnished Wares from the Upper Euphrates, which are sometimes black on the interior and over the lip, continuing in red down to the base. There is merit in the argument that the Red Black Burnished Ware from Arslantepe VII and VIA has a colour scheme that might derive from central Anatolia. Likewise, the ceramic assemblages from the Upper Euphrates Valley and the central plateau are, according to the Arslantepe team, distinct from those that originate from the southern Caucasus, which appear in Period VIB1.¹⁶¹

¹⁵⁹ Dzhavakhishvili excavations, in preparation, pers comm. Dr Ekaterina Gamkrelidze, Editorial Coordinator for Museum Publications, Georgian National Museum, Tbilisi (4 July 2015). The term 'Proto-Kura-Araxes' was also used at Sos Höyük (Sagona 2000), but in hindsight (Sagona 2014a) I have cautioned against its use until more evidence of this formative period becomes available.

¹⁶⁰ Kiguradze and Sagona 2003: 39; Sagona 2014a: 32–3. Cf Marro et al. 2009: 54; Bakhshaliyev 2013, who use the term 'proto', and Marro et al. 2014: 141 for 'Late Chalcolithic Kura-Araxes'; Rova 2014: table 1.

¹⁶¹ On Anatolian red-black wares see, Palumbi 2003a, 2003b, Frangipane and Palumbi 2007. We need to be careful when using the generic term Red Black Burnished Ware, as it has the potential to conflate different horizons and confuse matters. Braidwood and Braidwood (1960) first coined the descriptor to represent the northern Levantine version of Khirbet Kerak Ware in the Amuq. In more recent years, this colour scheme has been ascribed more widely to pottery from different traditions, such as the early black and red wares from the Upper Euphrates and central Anatolia, as well as Kura-Araxes ceramics (Bolger et al. 2014).

In 1984, I attempted to define very broad regional ceramic traditions.¹⁶² On the whole, despite overlaps, discoveries have substantiated these stylistic or potting traditions. While these ceramic zones are by no means sharply defined, they do represent central areas where certain styles are found in concentration. I will restrict discussion mostly to the Caucasus.

Generally speaking, the trend in pottery is for diversity in the early centuries of the third millennium followed by conformity through the widespread use of incised decoration. We also witness the increase in black vessels with a lustrous burnished exterior often displaying a silvery sheen that is possibly produced with graphite.

The Northern (Shida Kartli) Tradition

Shida Kartli formed a distinctive region especially in the first few centuries of the third millennium BC. Ceramics from key sites such as Kvatskhelebi C and its burials, Khizanaant Gora C–B, Tsikhiagora IB, and the Natsargora cemetery share many similarities. Pottery is predominantly black and red, though a considerable quantity is fired to a red-brown colour (Figure 5.10). In all cases, vessels are burnished, but not to a high lustre. Shapes are limited and comprise the tall, single-handled and three-handled jug, wide-mouthed pots and bowls, S-profiled cups, and the distinctive local scoop. There is a tendency for certain vessels to have a more angular shoulder, whereas more rounded forms often accentuate the juncture with a groove. Household potting techniques were strong, as seen, for instance, in the technique of manufacturing a vessel in two halves in the Kvatskhelebi C horizon.

Incised black-burnished pottery appears towards the end of Kvatskhelebi C and throughout Kvatskhelebi B, and at Tsikiagora. The absence of comparable incised pottery from Khizanaant Gora suggests that it must have come to an end before the beginning of Kvatskhelebi B. Although Shida Kartli potters adopted the fashion for incised decoration, they did so reluctantly if the limited range is any indication.

The Central (Tsalka) Tradition

This tradition is strongest across the Tsalka plateau, in the Samtskhe-Javakheti region and north-western Armenia. It is represented by material from Amiranis Gora, Harich, Ozni, Beshtasheni, and now more recently at Chobareti (Figure 5.11). The material found at Didube, on the outskirts of Tbilisi and comparable to finds from Chobareti, can also be placed in the early phase of this tradition. This style resonates strongly beyond the Caucasus, in the Muş

¹⁶² Sagona 1984.

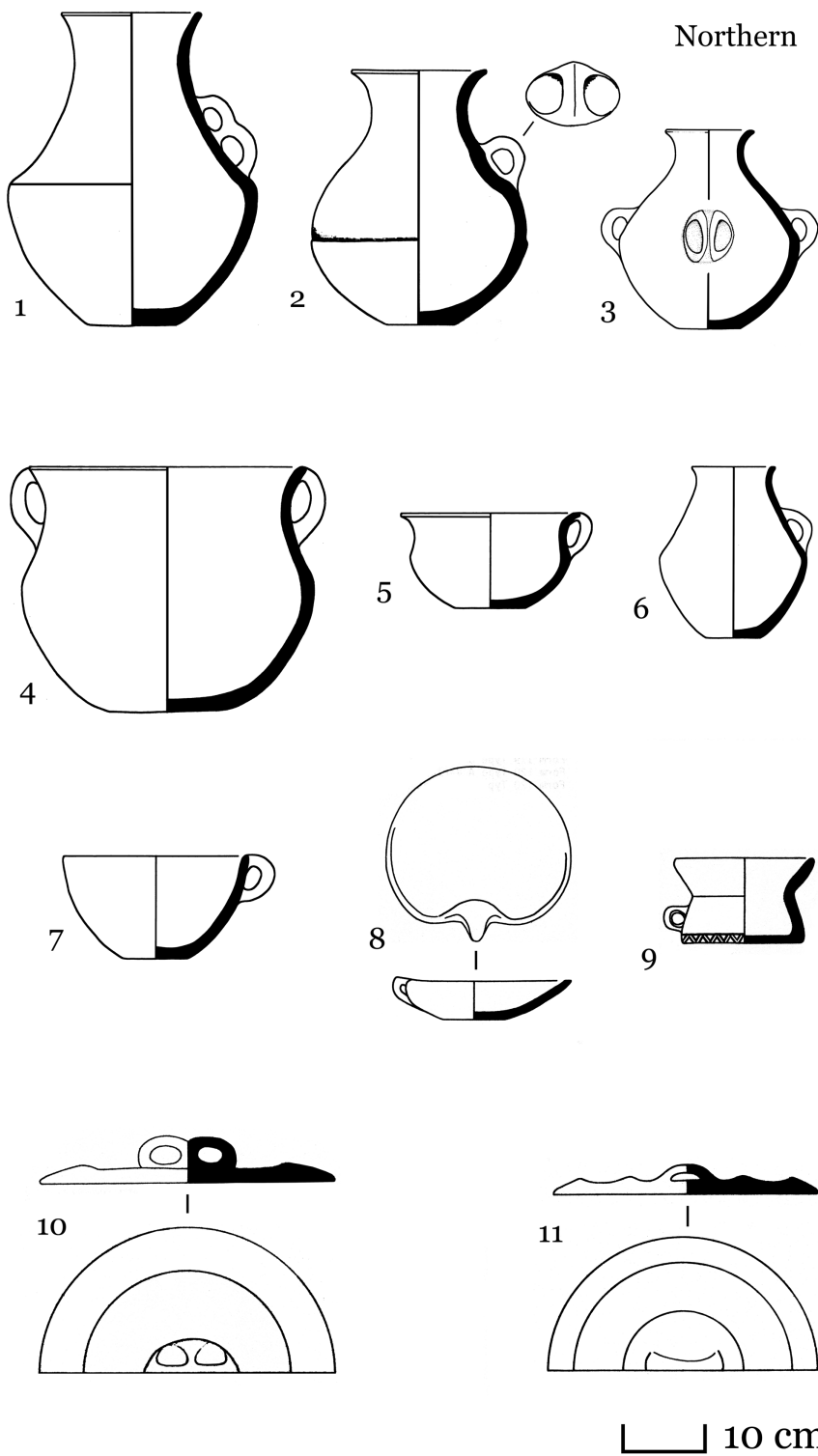


Figure 5.10. Kura-Araxes ceramics, a selection of forms of the northern tradition (after Palumbi 2008; Koridze and Palumbi 2008; Glonti et al. 2008).

Central

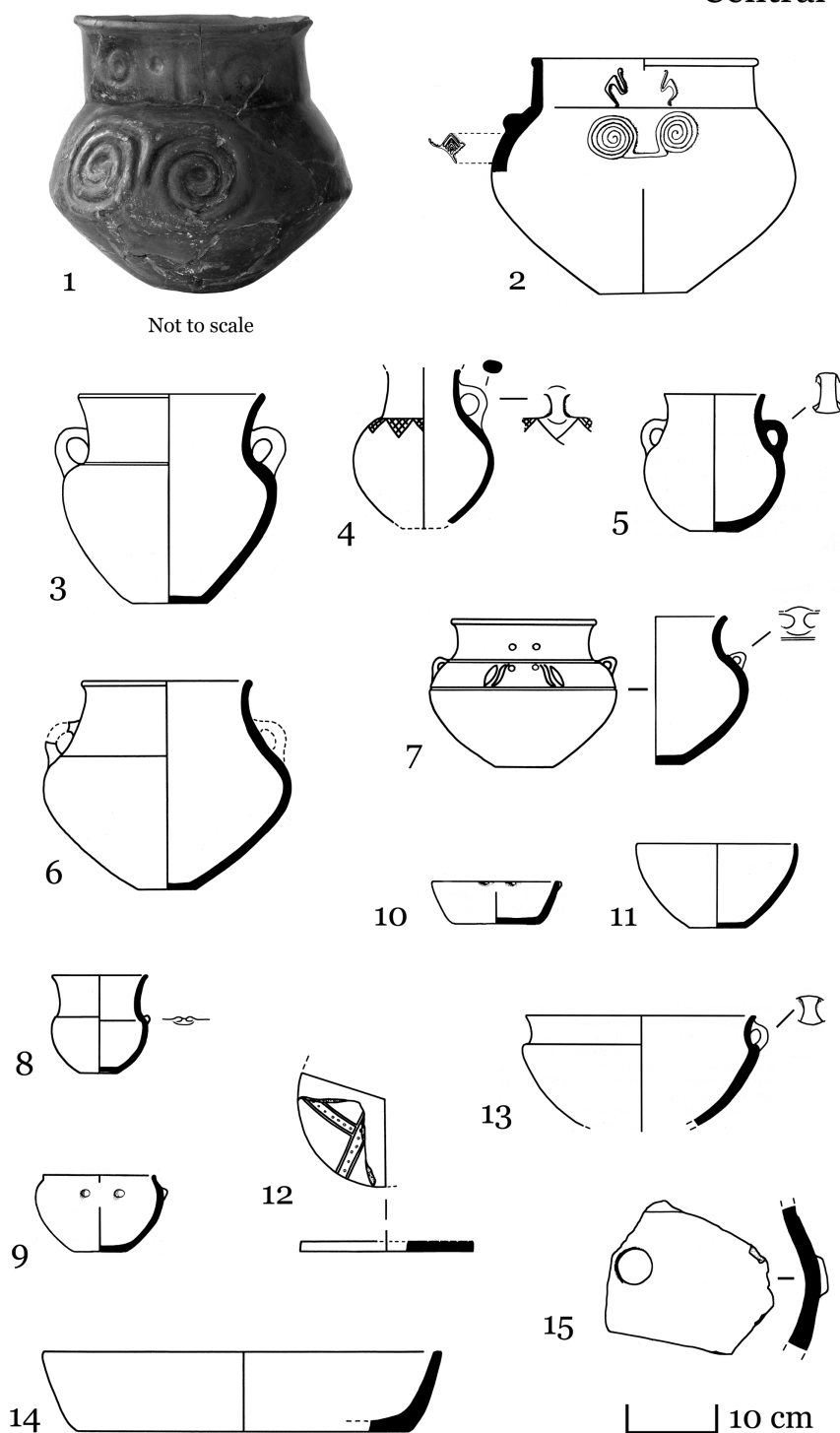


Figure 5.II. Kura-Araxes ceramics, a selection of forms of the central tradition: (1) Karaz (photograph B. Douglas); (2) Ozni (Sagona 1984); (3–8, 12–15) Chobareti (Kakhiani et al. 2013); (9–11) Didube (Palumbi 2008).

Plain, at Sos Höyük, in the first phase at Karaz (9.99–6.50 m), in the graves dug by Pchelina at Kiketi, at Mokhra Blur 9–11, and at Geoy K1.

Chobareti vessels have fine-grained clay that is well fired to shades of pale brown. In time, the quantity of red-black pottery increased. Sherds have cross-sections that clearly reveal their mode of manufacture. Vessels were mostly built up with coils, though some containers were constructed using slabs of clay that were applied to a sand-filled cloth bag, whose textile impressions are sandwiched at the centre of the biscuit. Both types of manufacture leave lumpy surfaces that are given a perfunctory polish (small vessels), or left matte in the case of large jars. Surfaces regularly have a 'leathery' look.

Some characteristics are already familiar from the earliest phase – such as the pale brown colours and large tall-necked jars with rounded shoulders and a pair of handles. Unusual for this ware type is a holemouthed jar with a rounded thickened rim, which was no doubt borrowed from the chaff-tempered fabric of the Late Chalcolithic. This interface is seen at a few sites, including Kul Tepe (Hadishahr) Period V, where grit- and chaff-tempered ceramics have been reported together in 3300 BC levels. Most vessels from Chobareti are undecorated, but some sherds bear broad, flattened knobs, occasionally with deep dimples in the centre. The second category of Kura-Araxes is more refined. Its clay is compact and fine, well levigated, and fired hard, enabling the construction of thin-walled containers. Most tellingly, this group can be decorated with linear patterns incised after firing, a trait it shares with the group of early ceramics.

In time, cups and jars assumed a more biconical appearance, topped with a cylindrical neck and rail or out-turned rim. Loop handles are not common, and give way to a pair of rudimentary lug handles placed opposite each other at the base of the neck.

Bold decorations are a signature of this tradition (Figure 5.11(1–2)).¹⁶³ The Georgian sites prefer plastic ornamentation, especially tight, double spirals which spring from a horizontal base line. Double spirals, though loose and separated by a vertical line, can be seen on containers from the earliest deposits at Karaz, Güzelova, and Amiranis Gora. Other patterns of this group include combinations of grooved circles and vertical lines, and impressed circles, sometimes flanked by oblique lines or enclosed within a lozenge.

The Southern (Armenian) Tradition

Badalyan has provided a clear sequence for Armenia, which he groups into two coeval stylistic groups: Shresh-Mokhrablur and Karnut-Shengavit.¹⁶⁴ This

¹⁶³ Ceramics from Dagestan can also have regional versions of bold relief decoration, but this north-western horizon remains difficult to place. On technical aspects, see Heinsch 2012.

¹⁶⁴ Badalyan 2014.

Armenian facies, overwhelmingly one of handled cups, produced some of the finest Kura-Araxes wares (Figure 5.12). Two broad characteristics distinguish both groups. One is the tripartite profile, comprising a wide concave neck, accentuated girth, concave lower third and narrow bases. Surface treatment is the other feature. Some vessels are so highly burnished they have a lustrous silvery sheen, possibly in imitation of metal containers. There is no consensus on how the sheen was produced, though graphite may have been used.

Ornamentation separates the two groups. The Shresh-Mokhrablur assemblage is generally impressed with round dimples, or bears motifs such as the V-shaped double spiral that is produced by shaving the belly of the vessel opposite the handle (Figure 5.12(1–2, 9)). Much finer is the Karnut-Shengavit group. This evolves from elaborately grooved decoration, again placed opposite the handle, to delicate incised designs that are purely rectilinear, such as a row of triangles on the shoulder and with incised bands around the neck (Figure 5.12(5–7, 10)). Potters from the Ararat Plain preferred to fill the inside of motifs with oblique lines and to manufacture bowls with a girdle-like, highly accentuated girth. In the Kvemo Kartli region, Ghaitmazi, Dangreuli Gora, and Sadakhlo II all yielded containers with incised horizontal bands filled with a row of chevrons. Elaborate tendril designs and stylised animal figures also appear, and circular pendants are common motifs as well. The finely incised pottery from Baba Dervish 1 Level II and Baba Dervish 2 Level I belong here. But the practice of decorating cups with isolated stylised animals is peculiar to the Kazakh region. North-eastern Anatolia embraced this southern tradition, too, as can be seen by the bulk of material from Pulus and Güzelova, and to a lesser extent Sos Höyük. Local developments can be detected in the use of solid tab handles and pointed bases.

We know very little about the Dagestan Kura-Araxes sequence in the north-east, except that its bold relief ornamentation stands in sharp contrast to the incised facies from Georgia and Armenia. Similar bold decoration is found at Badaani and in the recently excavated Ananauri Barrow 3 (see Chapter 7), suggesting a date towards the middle of the third millennium BC.

MINING FOR METAL AND ORE

Although the Kura-Araxes has been often associated with early bronze working, the most significant evidence for mining relates to gold. Gold districts are found scattered across the Caucasus: the area of Bolnisi, in southern Georgia, where the famous Sakdrisi Kazreti mine is located; the region of Svaneti in north-west Georgia; the Sotk deposit in Armenia; and comparable concentrations at Kedabeg and Gosha in Azerbaijan. The extensive gold mine at Sakdrisi, near the village of Kazreti, now regrettably destroyed, was mentioned as a mining centre in the seventeenth century. Iron, copper, and lazurite were extracted then, but no reference was made to gold, which was not mined until

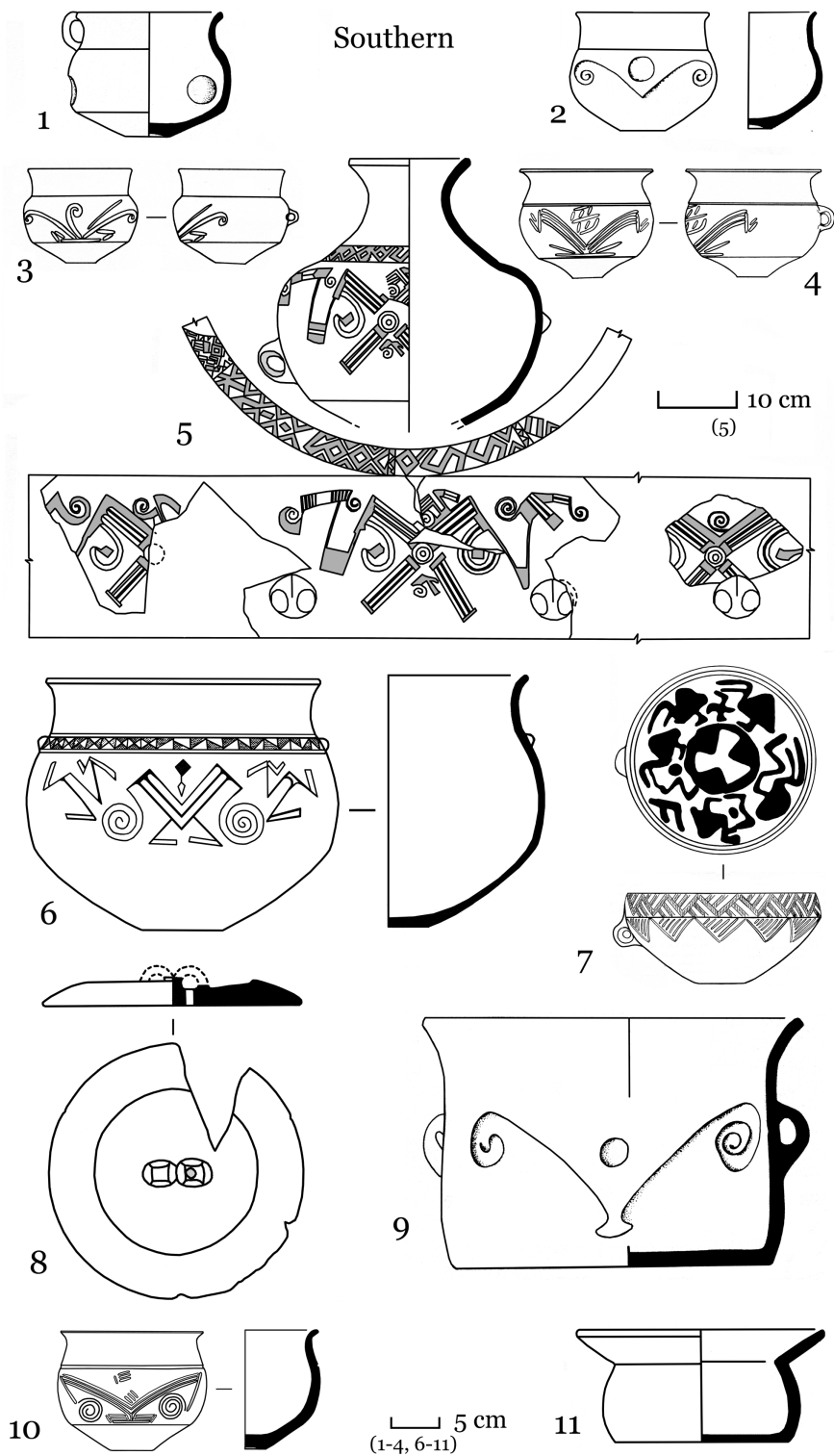


Figure 5.12. Kura-Araxes ceramics, a selection of forms of the southern tradition: (1–3, 9) Mokhra Blur; (4, 7) Shengavit; (5, 11) Karnut I; (6, 8) Gegharot; (10) Agarak (after Sardarian 1967; Sagona 1984; Badalyan and Avetisyan 2007).

the early twentieth century, in the environs of the nearby village of Abulmulg. The antiquity of Sakdrisi, also known as the hill of Kachagiani, was first recognised in the 1950s, when the remnants of mining activities were reported – notably hammer stones with a narrow waist for hafting, pounders, and stone palettes with cupules used to position the ore. But investigations did not follow and it was not until the 1980s, when Georgian geologists prospecting for gold rediscovered the site that interest in it grew. Importantly, the geologists perceptively noted that in addition to finding alluvial gold, prehistoric communities in Georgia must have mined it as well.

In 2004, a Georgian–German project renewed investigations at the hill of Kachagiani with a detailed surface survey, and followed up with eight field seasons, including excavations, ending in 2013.¹⁶⁵ Amid the dense vegetation that carpets the surface, the team mapped the positions of numerous artefacts (there were six basic types of hammer stones lying in situ) and features such as mining shafts and tailings. Surrounded by rhyolite tuff, the mine site was a conspicuous hillock of volcanic rocks and quartz veins, revealing complex mineralisation. Around it are settlements, cemeteries and visible stone walls belonging to several periods, especially the Early Bronze Age (Kura–Araxes), the Late Bronze Age and the Iron Age.

Sakdrisi is a complex of four mines (A–D), categorised into four areas (I–IV), and covering about 60 ha (Figure 5.13(1)). The complex comprised mining shafts between 3 and 5 m wide, transitional corridors, and pits. One of the prehistoric workings reached a depth of 27 m. Excavations within the mine revealed stratified deposits of numerous tools (almost 10,000 items) and ceramics. Secure radiocarbon samples clearly indicate that Kura–Araxes miners exploited the gold from the mid-fourth to mid-third millennium BC, making Sakdrisi the oldest known gold mine in the world. Later miners re-worked the old deposits in the fourth and fifth centuries, but were not as intrepid as their prehistoric forebears.

Mining at Sakdrisi involved a lot of hard work. In the first instance, the miners used fire to crack the extremely hard matrix in which the gold is embedded. Experiments demonstrated that the miners would have left the galleries after lighting a fire – small pieces of wood were probably laid against the wall – to avoid the noxious fumes and, when the air cleared, they pounded the walls of the mine with heavy, hafted hammer stones, leaving tell-tale hollows. Tools varied according to the task, from heavy mallets to finer implements, such as antler picks, used to extract deposits in narrow cracks (Figure 5.13(2)). The next stage involved hand sorting and crushing the ore, which was finally milled to a powder. Most of the milling was carried out at nearby Dzedzvebi,

¹⁶⁵ Stöllner et al. 2010 and Gambashidze 2011, 2014; Stöllner 2016; Gambashidze and Stöllner 2016. On the chemical constituents of gold see Hauptmann 2011.

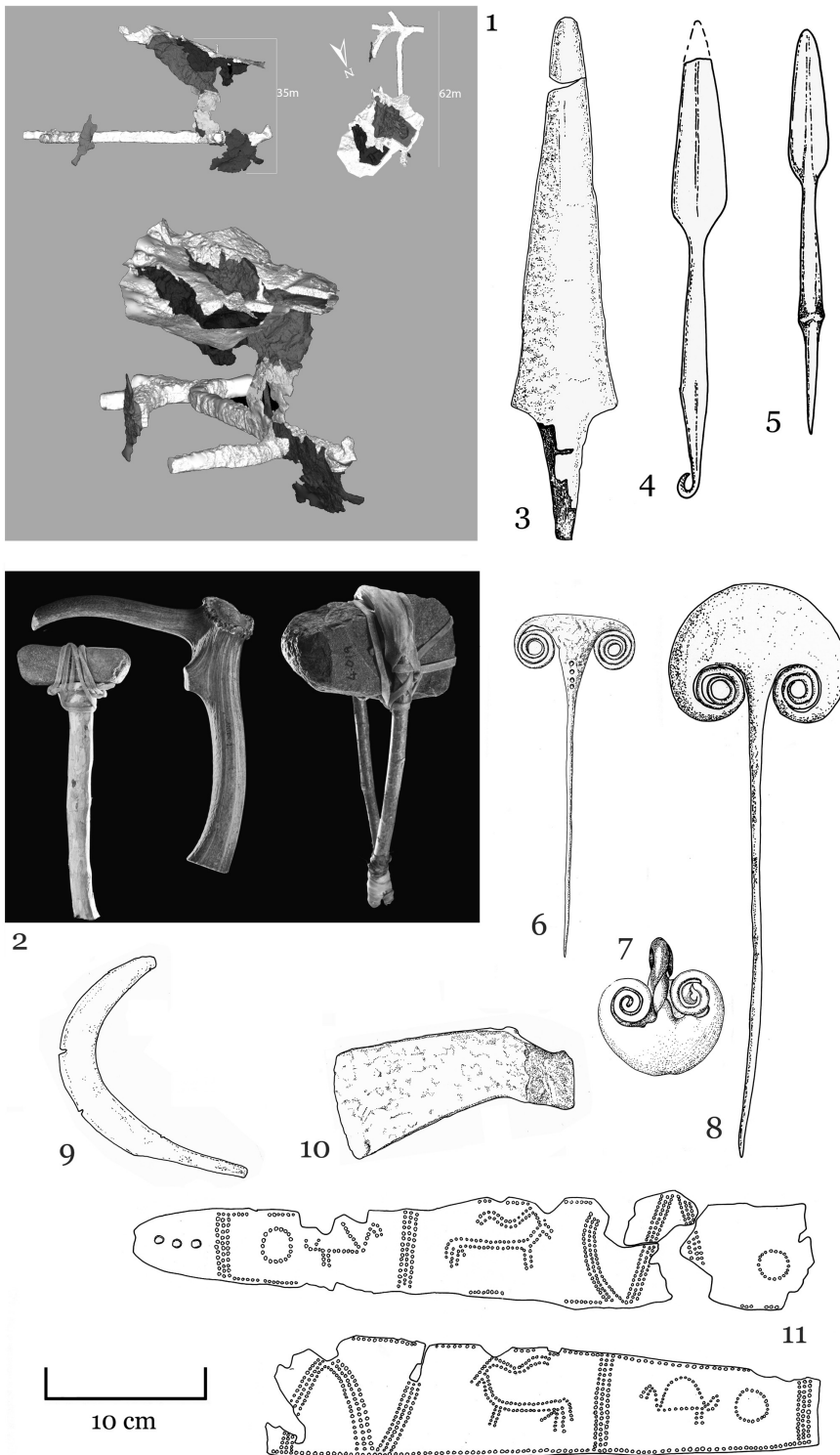


Figure 5.13. Sakdrisi plan and tools, and Kura-Araxes bronze tools including axes, awls and daggers: **(1)** Sakdrisi 3D plan (courtesy T. Stöllner); **(2)** Mallets and pick from Sakdrisi (courtesy T. Stöllner); **(3)** Elar; **(4)** Tbilisi; **(5)** Akhaltsikhe; **(6, 7)** Urnisi; **(8)** Ghaitmazi; **(9)** Khizanaant Gora; **(10)** Medzhvirskhevi; **(11)** Kvatskhelebi (after Sagona 2004).

the settlement where the miners lived. But a substantial dump and tools found near the entrance of Sakdrisi mine indicates that some milling and sorting was conducted on site, no doubt to determine which where the richest veins. Estimates have suggested that the industrious miners exploited somewhere between 500 and 1000 kg of gold at Sakdrisi in the course of its lifetime. To put it another way, it would have taken 16 workers 330 days, labouring 8 hours a day, to produce 1 kg of gold, or at least three days to process enough of the precious metal to produce the 9.4 gm spiral earring from Paravani.¹⁶⁶

Ritual behaviour has emerged as a very interesting aspect of these mining activities. Once the miners had exploited a vein to their satisfaction, they refilled the mine, as well as intentionally placing beneficiated sands and gravels in worked areas. This sense of 'closure' or ritual tallies with the in situ appearance of many house interiors and suggests that Kura-Araxes communities may have perceived their built environment to have been imbued with immanent spirits. At Sakdrisi, further expressions of ritual can be found at Dzedzvebi, where Area II, the southern slope of the Dzedzvebi plateau, yielded four buildings that were constructed during the Kura-Araxes period. Evidence of metallurgical activity, whether rubbers or crucibles, slag or soil enriched with gold residues, was found in many places: in an annex of House 1, for instance, and in House 3, a large structure without a central hearth that appears to have used primarily to process the ores. But these functional areas were also richly instilled with a sense of ritual. Beneath the grinding tools and other processing debris, the excavators found two pit graves each with a skull of a juvenile that was accompanied by goods, including ceramic vessels, stone rubbers and fragments of a hearth. In another area, two small ceramic pedestals (hearth hobs) conspicuously flanked a pot filled with a reddish ore pigment.

STONE AND BONE TOOLS AND METALWORK

There are a wide range of stone utensils associated with agricultural activities and food processing. They include saddle querns shaped from basalt, sandstone and tuff, rubbers, mortars, and a restricted number of flaked tools, mostly obsidian, but flint as well. Flint sickle blades, often with a serrated edge, were inserted into a curved bone or wooden haft. Antler and wooden hoes were used to till the land, with Baba Dervish yielding some of the best examples.¹⁶⁷

There are three types of stone axes: wedge-shaped and polished, particularly common in the north Caucasus; large fluted axes found in Armenia and in the north-east Caucasus; and the shaft-holed variety popular in the western regions, as far as the Turkish Upper Euphrates.¹⁶⁸ We should also draw attention

¹⁶⁶ Stöllner 2016: 222–3.

¹⁶⁷ Ismailov 1963: 142.

¹⁶⁸ Munchaev 1994a: 37.

to maces, mostly crafted from basalt and dolerite, which have a wide distribution through the Caucasus.

Projectile points were manufactured from obsidian and flint, and come in three basic types. The first is triangular in form and has a notched base; occasionally the notch is missing. They are particularly common in the north-east Caucasus and northern Georgia, areas that bordered the Maikop cultural province, where they were characteristic.¹⁶⁹ A central tang distinguished the second type. Both an elongated and a short, broad variant of this type were knapped, and they are found across the entire Kura-Araxes province. The third is a spear-head. It is long (up to 8 cm) and leaf-shaped, and examples are quite rare in the southern Caucasus, occurring at Chobareti, Khizanaant Gora B, and Tiselis Seri.¹⁷⁰ They do occur in western Georgia as well, and in the Near East they are referred to as the 'Tell Brak' type.¹⁷¹ Bone was also used to produce arrow-heads. They are circular in cross-section and have a shouldered elongated head and shorter shaft. At Sos Höyük, they belong to the latter part of the Early Bronze Age, which is also where the Shengavit examples probably belong.¹⁷² The large quantity of round stone projectiles found at Agarak is noteworthy.¹⁷³

The most common bone tools are awls and borers crafted from sheep and goat bones, which differ little from earlier and later examples. Textile industries are attested by the abundance of bone (rarely stone) spindle whorls, and perforated pebbles that may have been used as loom weights.¹⁷⁴ As we have seen, impressions of these textiles have been detected between slabs of clay used to build certain ceramics.

Much attention has been focused on the metalworking skills of the Kura-Araxes, which are generally seen as novel for the time. Many sites have yielded evidence of metallurgical activity – moulds, crucibles, tuyères, and samples of slag – and a great many analyses of constituent elements have been undertaken, especially during the Soviet period, which are now rather out-dated.¹⁷⁵ The concentration of metallurgical equipment and residues at certain sites, such as Amiranis Gora, Baba Dervish II, and Khizanaant Gora, are suggestive of workshops.¹⁷⁶ Even so, metal production during this period was small scale and, like other craft activities, home-based.¹⁷⁷ The quantity of metal items is less a

¹⁶⁹ Munchaev 1961: 64–5.

¹⁷⁰ Kikvidze 1972: 20, figs 4–5; Gogochuri and Orjonikidze 2010: pl. VI: 4.

¹⁷¹ Nebieridze 1986: pl. XXXIV; 2003: pl. VIII.4; see also Schmidt 1996: pl. 60: 752 for the example from Norşuntepe Level 6.

¹⁷² Sardarian 1967: fig. 46: 3–5.

¹⁷³ Tumanian 2012: 116.

¹⁷⁴ Munchaev 1961: fig. 12: 1–3.

¹⁷⁵ For a list of sites with metallurgical evidence, see Munchaev 1994a: 38–9; Courcier 2007. Analytical results have been synthesised in Abesadze 1969, Gevorkian 1980, and more recently Gambashidze et al. 2010. See also Peterson 2003 on Dagestan.

¹⁷⁶ Courcier 2010: 86.

¹⁷⁷ Tedesco 2006.

distinguishing feature in the Early Bronze Age than the evidence for experimentation. Drawing on the metallurgical skills developed by their predecessors in the Chalcolithic period, Kura-Araxes metal smiths were particularly adept at transforming the attributes of copper ore by adding arsenic, lead, silver, antimony, and even the occasional quantity of tin.¹⁷⁸

Bronze tools include axes, awls, and daggers. The small curved objects are often referred to as 'sickles', though they are likely to have been used for the removal of fatty tissue in leather processing – a common practice in modern taxidermy (Figure 5.13(9)).¹⁷⁹ There are several types of metal axes. The flat, trapeze-shaped variety with a folded top is fairly rare, but found in Georgia, Armenia (Prirevan hoard), and eastern Anatolia (Karaz).¹⁸⁰ More common is the axe with a short, curved blade, a lowered butt, and a shaft hole that is off-centre (Figure 5.13(10)).¹⁸¹ The example from Tiselis Seri is important for both its secure archaeological context – most of these axes are chance finds – and the 1.5 per cent arsenic content that was intentionally added. What relationship these metal axes have to their stone predecessors is not altogether clear, but a conceptual development is certainly possible.¹⁸² The production of these useful tools can also be seen in the number of bivalve moulds in clay and stone that have been found scattered across the Caucasus from Dagestan (Galgatli) to Nakhichevan (Kültepe I).¹⁸³ Finally, we have an axe type with a more or less centred shaft hole and protruding butt. These axes constitute mostly single finds in the Caucasus, and occur in various sizes up to 28.5 cm in the Prirevan hoard.¹⁸⁴ Their origin is sought in Anatolia and south-eastern Europe, whence they entered the Caucasus; in the latter region, they were produced at such centres as Alaverdi. According to Courcier, these 'pick-axes' were probably used in extractive mining.¹⁸⁵

Another large group of metalwork are daggers and knives. Daggers with a flat blade and short handle are fairly common and appear to have developed from the short laurel-leaf shape into a more elongated variety with a midrib. The example from Ajgevan has two longitudinal ribs, a trait of the northern Caucasus. Elar (Armenia) has yielded some important examples.¹⁸⁶

¹⁷⁸ Courcier 2014; Peterson 2003; Stöllner and Gambashidze 2014; Meliksetyan and Pernicka 2010.

¹⁷⁹ Khachatrian (1975: 56–8, fig. 14) was of a similar opinion, based on the clay mould found at Harich.

¹⁸⁰ Kushnareva and Chubinishvili 1970: 127; Martirosian and Mnatsakanian 1973; Abesadze 1969: fig. 1: 16.

¹⁸¹ Abesadze 1969: fig. 6: 122–8; Munchaev 1994a: fig. 12: 27–8, 34–8; Courcier 2007: fig. 23.

¹⁸² Ordzhonikidze 2004.

¹⁸³ Munchaev 1975: fig. 30.

¹⁸⁴ Martirosian and Mnatsakanian 1973: 123–4.

¹⁸⁵ Courcier 2007, 2010.

¹⁸⁶ Khanzadian 1969: figs 68–9; 1979: fig. 47.

Further north in Georgia, at Tsartsisgora and Koreti, we have examples with cast bronze handles and decoration in relief.

Spearheads can be large and, like some of the axes, they are mostly isolated finds (Figure 5.13(3–5)). As is the case with the axes of Anatolia, parallels are often sought in north Syria and Mesopotamia. There are two types: one with a circular shaft and hooked end, and another with a ‘node/shoulder’ along the shank. One spearhead found in the Telman Astara district in Azerbaijan measured 27 cm in length.¹⁸⁷ The closest parallels are the twenty examples from Arslantepe VIA and nine from the elite tomb of Period VIB1. Both their form and their chemical fingerprints – arsenical copper with low (Period VIA) and high (Period VIB1) nickel content – suggest that the polymetallic ores were imported from south Caucasia. Related to spearheads are the lethal, pointed bayonets with a rectangular cross-section. Other bronze implements include the ubiquitous awls (5–6 cm in length and rectangular in cross-section).

Amongst the bronze ornaments we can include bronze lunate hair-rings, coiled bracelets, beads, pendants, diadems, and double-spiral-headed pins (Figure 5.13(6–8)). In the immediate post-Kura-Araxes period, at Sachkhere, pins developed into T-shaped and loop-headed forms with a twisted upper shank (see Chapter 7).¹⁸⁸ During the second millennium BC, the T-shaped pin spread quickly throughout the northern Caucasus. From Kvatskhelebi, we have a bronze diadem with empanelled zoomorphic images in a repoussé technique (Figure 5.13(11)) that has striking similarities to the diadem from the ‘Royal Tomb’ at Arslantepe.¹⁸⁹ And from Shengavit, we have gold beads. With regard to metallurgy, the Caucasus was clearly a thriving area during the third millennium BC, having a number of independent centres, including in Dagestan.¹⁹⁰ Although credit is given to local populations for their creativity and skills, the traditional school nonetheless attributed some of the stimulus to areas further south, such as Mesopotamia.

Trace Element Analyses

A series of recent analytic tests on forty-eight metal artefacts from the Armenian Early Bronze Age and four copper samples collected from crucibles have identified five categories: pure copper, arsenical copper, arsenical copper with concentrations of tin and a separate group with concentrations of lead, and bronze (copper and tin).¹⁹¹ The study was not without discrepancies, but it did highlight some interesting patterns that require further exploration. It was

¹⁸⁷ Makhmudov et al. 1968.

¹⁸⁸ Gambashidze et al. 2010; Carminati 2014.

¹⁸⁹ Frangipane et al. 2001.

¹⁹⁰ Peterson 2003.

¹⁹¹ Meliksetyan and Pernicka 2010; Meliksetian et al. 2011.

found that the artefacts had a higher ratio of arsenic relative to antimony when compared to Armenian copper ores, a result possibly caused by the metallurgical process or the use of young copper-ore bodies. Patterns of lead isotope suggest that metal smiths from the Ararat Plain and northern Armenia most likely smelted copper ores collected from sources either in north Armenia or in east Anatolia. Amongst the artefacts, a spiral ring from Talin Tomb 11 stood out for its high (11 per cent) tin content, warranting the classification of tin bronze. Although its trace elements are comparable to tin bronzes from Dagestan, the Levant, the Aegean, and the Persian Gulf, its presence in Armenia is difficult to explain.

SALT AND SALT MINING

Recent investigations at the large salt mine of Duzdağ, situated around 7 km north-west of the city of Nakhichevan have ushered in a new chapter in the late prehistory of the Caucasus.¹⁹² A conspicuous salt dome overlooking a segment of the Tabriz to Constantinople Silk Road, Duzdağ was mined from the second half of the fifth millennium BC, making it one of the earliest mines of its kind in the world. Its sheer size is noteworthy – it covers an area of 3 x 2 km and has salt deposits 150 m thick. Duzdağ–Nakhichevan is not the only salt mine in the surrounding region – there is Duzdağ–Khoy in the Urmia basin of north-west Iran, for instance – but the Nakhichevan mine is exceptional for its vastness and intensive exploitation over a long period.

A large quantity of Late Chalcolithic (Chaff-Faced Ware) and early Kura-Araxes pottery that carpets the southern slope of the site points to its earliest period of exploitation; there is a concentration of these two wares around the entrance of tunnels. Tools such as hammer stones with a groove around their waist, manufactured from river pebbles and weighing no less than a kilo, and sledgehammers as heavy as 10 kg or more attest to the hard labour carried out by the late prehistoric miners. Grinding stones and mortars have also been recovered from the surface; some were used to process salt, whereas others functioned as tool sharpeners. In a recent study, Caroline Hamon has discerned three concentrations of macrolithics, namely an area where tools were manufactured and repaired, zones where salt was extracted, and a third area where the salt was processed.¹⁹³ Salt mining was a hazardous activity to say the least. The risks involved were graphically revealed when Soviet miners, who had broken through to an ancient mine at this site, found the remains of four workers buried together. Tools scattered around the ancient miners indicated they belonged to a community that flourished at the end of the third and beginning of the second millennium BC.

¹⁹² Marro et al. 2010.

¹⁹³ Hamon 2016.

Preliminary investigations reveal that ancient miners extracted the salt by digging tunnels in a row, now visible as etchings in the white salt layers. Most tunnels have since collapsed, but one is preserved to a height of 1.1 m and continues for about 4 m. Eventually, the project will correlate tunnels, quarries and artefacts to produce a picture of the evolving system of mining.

The obvious question to ask is what these communities were doing with all this salt. There are three primary reasons why salt is of paramount importance to human societies: (1) for metabolic reasons – sodium is the predominant cation of the circulating blood plasma and tissue fluids in all animals;¹⁹⁴ (2) for its symbolic value – as the essence of living things, it was soon ascribed with magical and ritual powers;¹⁹⁵ and (3) for utilitarian purposes – as an ingredient in functional activities such as tanning and possibly metallurgy, when it can be used to separate gold from silver, and also for food preservation.¹⁹⁶ Whatever the purpose of salt, it is clear that its exploitation was part of the broad ranging economic strategies that characterised the late prehistory of the southern Caucasus.

Although human societies, if living in a salt-deficient environment, can receive adequate sodium intake from eating meat, the ruminant species on which they rely so heavily can easily become salt deficient, because large parts of the planet are in short supply. An appetite for salt is innate in all living creatures. If sheep, for instance, do not satisfy their salt requirements they develop parotid fistula, a disease of the digestion system involving the salivary gland. In the wild, an animal's appetite is satisfied by a salt lick, whereas amongst domesticated flocks stockbreeders ensure an adequate supply. Failure to guarantee an adequate amount of salt in the diet results in poor fertility, weak lambs at birth, and reduced milk production, amongst numerous other disorders. The quantity of salt required by sheep will depend on their age, weight, and level of production. The more productive the sheep – dairy sheep and prolific breeds – the higher their salt requirements will be.

THE PROCESS OF MIGRATION

A few decades ago, there was a forceful reluctance to engage with the concept of migration because it 'ha[d] been mystified as a phenomenon that is difficult

¹⁹⁴ For an exhaustive study on the hunger for salt, involving anthropological, physiological and medical data, see Denton 1982. One of the most remarkable instances of the need for salt by an animal species has been recorded in glacial environments of northern Europe, which are salt deficient. There, the need for salty substances (for optimum growth) brings reindeer to human camps, where they are given human urine, ensuring the bond between the animals and humans.

¹⁹⁵ As a condiment in meals for the gods and as a substance to burn with incense, see Potts 1984.

¹⁹⁶ Potts 1984.

to detect archaeologically, that occurred sporadically and unpredictably in the past, and that therefore is not amenable to uniformitarian or scientific explanation'.¹⁹⁷ Studies on the Kura-Araxes diaspora did not escape this aversion to theories of migration.¹⁹⁸ Contemporary scholarship, however, has embraced the study of migrations once again, spurred on in part by the new insights into population movements provided by ancient DNA.¹⁹⁹ Drawing on the studies of demographers, geographers and economic historians – who have never had an issue with the notion of migration – archaeologists now interpret people movements largely as a social process.²⁰⁰ At the core of this approach is a range of factors such as work opportunities and labour demand, and changes in kinship structures that cause some groups to fission and emigrate. According to Anthony, a useful way of modelling migration is to think of 'push' and 'pull' factors. The former are seen as negative circumstances in the homeland, whereas the latter are attractions in a new region.²⁰¹ Within this web of concepts and methods, we must never lose sight of the creators of the material culture we study. How individuals (agents) can purposefully work within or change a system through their actions reflects their capacity and power (agency).²⁰² This perspective applies to migration, as well as to every facet of daily life.

As noted earlier, the Kura-Araxes province does have some clear frontiers, which are defined by modes of architecture, use of space, burial types, and a distinctive portable material package, including pottery. The variation within the Kura-Araxes system may point to its multi-ethnicity – groups of people who might have spoken different languages, but who shared the same values and ideology. Some studies also suggest that the relatively limited forms of pottery, largely closed, reflect a shared cuisine possibly based on stewed and boiled foods.²⁰³ This would mean that there was an enduring 'cultural'

¹⁹⁷ Anthony 1997: 21.

¹⁹⁸ Todd 1973. Different viewpoints were expressed in other studies. Population migrations were suggested early on by Burney and Lang (1971), Sagona (1984), and Yakar (1985), but the empirical evidence was not refined enough to crystallise a theoretical framework. More recently Philip (1999) has suggested Khirbet Kerak culture is an expression of cultural emulation, whereas De Miroschedji (2000) rightly maintained ceramics alone could not support the migration argument. But we now have firm empirical evidence and better constructed theoretical models to sustain the idea of a migration of people. See, amongst others, Rothman 2003a; 2015; 2016; Batiuk 2005; Palumbi 2008; Greenberg et al. 2015.

¹⁹⁹ Haak et al. 2015.

²⁰⁰ Rothman 2003a; 2015; 2016; Batiuk 2005; Palumbi 2008; Greenberg et al. 2015. Philip (1999) has suggested Khirbet Kerak culture is an expression of cultural emulation, whereas De Miroschedji (2000) rightly maintained ceramics alone could not support the migration argument.

²⁰¹ Anthony 1990, 1997.

²⁰² Barrett 1994; Dobres and Robb 2000; Hodder and Hutson 2003; Miller 2008, 2010.

²⁰³ Wilkinson 2014b.

cuisine acceptable to the various disparate regional and ethnic groups from the Euphrates to the Urmia basin and beyond.

Various explanations have been proposed for the Kura-Araxes migrations out of their heartland. Some have suggested overgrazing of pastures and population pressure,²⁰⁴ while others believe that ameliorating climate change opened up new economic opportunities for both farmers and stockbreeders.²⁰⁵ The quest for metal ores, especially in Anatolia, is another popular theme,²⁰⁶ as is greater access to trade networks – in particular that provided by the Uruk-connected region of the Euphrates corridor.²⁰⁷ Finally, displacement caused by the incursion of peoples from the northern Caucasus into the Kura-Araxes interfluvium has also been suggested.²⁰⁸

Giulio Palumbi has proposed a persuasive account for the expansion of the Kura-Araxes into eastern Anatolia and the Iranian highlands, linking it to the collapse of the Uruk system in the Upper Euphrates region.²⁰⁹ Dynamics across the riverine corridors between the Caucasus and eastern Anatolia existed, according to Palumbi, before the collapse of Arslantepe VIA palatial complex, but it was the subsequent power vacuum that facilitated the intensity of the social processes in the third millennium. Palumbi goes further and suggests that the appearance of Kura-Araxes material at Arslantepe VIB1 and Godin IV2 was less a case of the arrival of new groups as the social and political transformation of local populations, who adopted Kura-Araxes values. This interaction is poignantly reflected by the imposing ‘royal tomb’ constructed at the very beginning of the third millennium (Arslantepe VIB) in the debris of Arslantepe VIA.²¹⁰ The tomb embodies a complex ritual. It contained the remains of a high-status male accompanied by four adolescents, whose remains were found on the stone slabs covering the cist tomb. Very rich funerary gifts, reflecting an extraordinary range of cultural influences, leave no doubt about the authority of the principal interred. Kura-Araxes items (weapons, jewellery, ceramics, and metal vessels) form part of an assemblage that draws inspiration from Maikop and Syro-Mesopotamia. Who this person was – whether a local with strong Caucasian ties or a foreigner from the east – remains a moot point, but he clearly reflects the radical socio-economic and political changes that took place immediately after the collapse of the Mesopotamian-type palatial system.

²⁰⁴ Burney 1996.

²⁰⁵ Connor and Sagona 2007; a more developed environmental background is now given in Connor and Kvavadze 2014.

²⁰⁶ Kelly-Buccellati 1979; Kohl 1992: 122; 2007: 101.

²⁰⁷ Chernykh 1992: 54–5.

²⁰⁸ Kohl 2007: 102.

²⁰⁹ Palumbi 2016.

²¹⁰ Palumbi 2008: 107–56.; Frangipane et al. 2001.

For Mitchell Rothman the key lies in the search for a market in metals and pastures.²¹¹ He uses the metaphor of ‘ripples in a stream’ to help explain multiple migrations over time, each prompted by social and cultural circumstances specific to their own period. According to Rothman, this helps explain the recurring appearance of distinctive Kura-Araxes assemblages in regions like Malatya, and the differences across the culture province. These ‘ripples’ were the manifestation of nomads, transhumant pastoralists, and farmers on the move. In all cases, there is evidence of hybridity – the result of interaction between Kura-Araxes migrants and local populations. Stephen Batiuk builds on Rothman’s view and adds that the exchange of resources and emulation of lifestyles should also be considered as drivers of hybridity.²¹²

Compelling evidence for migrant communities, most probably small kin-based groups, stems from the renewed excavations carried out by the Tel Aviv team at Tel Bet Yerah over some fifteen years. Through high resolution excavations and analysis, the team has been able to show close similarities to Caucasian and east Anatolian sites with respect to the technology of pottery construction; the manufacture of stone tools; modes of construction, especially the persistent use of wattle-and-daub; and the arrangement of furniture and use of space within dwellings.²¹³

The Mobile and the Settled – The Economy of the Kura-Araxes

The lopsidedness of our understanding of the Kura-Araxes tradition, leaning as it does towards the study of ceramics and to a lesser extent metalwork, is perhaps most sharply reflected in the debate over the subsistence strategies practised by its communities. More than any other aspect of Kura-Araxes lifeways, we know least about their pastoral and agricultural activities, owing to the small number of detailed studies of animal bones and palaeobotanical macro-remains. Available data from early investigations are marred owing to poor methods of sampling animal bones. This circumstance has encouraged researchers to look at material culture for an answer. A combination of portable objects such as vessels with small, perforated handles, dwellings (free standing wattle-and-daub structures) that resemble in plan those constructed by present-day nomadic groups, and the swift dispersal of the Kura-Araxes tradition has given rise to the widely held view that mobility played a key role in the life of these mountain people.²¹⁴ But determining the nature of their

²¹¹ Rothman 2003a, 2003b, 2005.

²¹² Batiuk 2005; Batiuk and Rothman 2007. For the view of emulation, see also Philip and Millard 2000.

²¹³ Greenberg and Goren 2009; Iserlis 2009; Iserlis et al. 2015.

²¹⁴ Whallon Jr. and Kantman 1969: 103; Burney and Lang 1971: 57; Cribb 1991: 221; Sagona 1993. Frangipane and Palumbi 2007; Palumbi 2010, 2012.

mobile pastoralism, especially the way Kura-Araxes communities managed their herds, is quite problematic. The link between stock-herding and population movements is particularly strong, so much so that the search for grazing lands is seen as an impetus for the Kura-Araxes migrations.

ANIMAL HUSBANDRY

In its broadest sense, pastoralism, or animal husbandry, is concerned with the raising of livestock. In the ancient Near East, a pastoral community generally refers to one that tended and used domestic animals such as sheep, goats and cattle as part of their subsistence strategy. The degree to which a community moved with their herds, or integrated stockbreeding with farming determined the type of pastoral society in question.²¹⁵

Jennifer Piro succinctly summarises the range of pastoral societies:

At one end of this spectrum are *sedentary pastoralists* who live in permanent settlements (typically villages) and feed their herds year-round on pastures relatively nearby. If, as so often happens, these people also engage in agriculture, they may be classed as *agropastoralists*. This type of pastoralism is also known as *village-based herding* and is secondary to agricultural activities in the subsistence economy. At the other end of the spectrum is full-fledged *nomadic pastoralism*, which is a highly specialized form of pastoralism. In a purely nomadic pastoralist society, all or almost all of the population moves with the herds from place to place and from one elevation to another in search of pasture throughout the cycle of seasons, living in temporary encampments and often traveling hundreds or even thousands of miles over the course of a year. Because of their continual movement, pure nomadic pastoralists have little opportunity to practice agriculture and often rely on economic relationships with settled agriculturalists to obtain such resources.²¹⁶

Within this spectrum is transhumance, a strategy involving part of a community moving with their flocks, seasonally or periodically, to different environmental zones. This usually entailed moving to highland pastures in spring and summer, where herders also prepared milk products, and back down to the plains and valleys in the autumn and winter.²¹⁷ It is important to note that transhumance generally supplements farming. That is, a community who decides to take their herds to higher altitudes in summer is itself sedentary. Conversely, semi-nomadism is an economic strategy whereby pastoralism is the primary focus, but augmented by the planting of crops at a base point.

²¹⁵ Khazanov 1984: 19–25; Abdi 2003: 400–05; now see Potts 2014.

²¹⁶ Piro 2009: 5.

²¹⁷ I observed this pattern in the 1990s during the field seasons at Sos Höyük, where transhumant pastoralists would arrive from Urfa and settle for the summer in the yaylas above the plain of Pasinler.

Various models of pastoralism have been suggested for Kura-Araxes. One proposes that their communities were stock-keepers engaged in migratory, seasonal transhumance, whereas others explain the Kura-Araxes subsistence as oscillating between mobility and sedentism, depending on environmental circumstances.²¹⁸ Yet another view is that towards the end of the Early Bronze Age and in the subsequent period, defined by the appearance of barrow burials, communities became more nomadic, a view inferred from the shallowness and at times ‘invisibility’ of occupation deposits.²¹⁹

So what, then, does mobile pastoralism actually involve in terms of herd management practices? At the core of this question are the decisions stock-breeders make, which are determined by a number of factors, including the physical environment in which they live, the socio-political organisation of their community, and the cultural tenets on which their society is based. These aspects will define a range of production goals and herding strategies, such as whether the community will, for instance, reduce the risk in maintaining their animal stock and aim to maximise on returns, or conversely adopt a specialised plan focused on animal resources. Another decision in keeping a herd is whether lambs and goat kids are raised as replacement stock or for slaughter. Which of these two categories is chosen will further determine how quickly the animals gain weight and, accordingly, what feeding programme they should be on. Knowledge is required not only of the physiological changes of caprine (sheep and goat) digestive systems, but also the types and amount of feed lambs and young goats can eat. Critical in this regard are three periods in a life of young caprines: the milk-feeding period, weaning, and post-weaning, when solid foods are introduced.

These and other decisions have to be thought through carefully in order to maximise three products that are most exploited in a caprine pastoral economy: meat, milk, and wool/mohair. The relative scale of exploitation of these products is reflected in different age/sex and sheep/goat profiles of a herd, which, in turn, can be used to deduce management strategies adopted by an ancient community.²²⁰ For example, a herd maintained primarily for meat consumption will show marked reduction in young males between 18 and 30 months, just before they reach their maximum weight, which is promoted by early weaning. Females in the same herd, on the other hand, would survive until they are of no further use for breeding, generally placed at five years.

²¹⁸ Kushnareva 1997: 192–6 (long-distance transhumance); Cribb 1991: 221; Sagona 1993: 453–4 (vacillating subsistence).

²¹⁹ Kushnareva 1997: 208.

²²⁰ Two theoretical models are often used to determine management strategies based on kill-off patterns for sheep and goats. One, developed by Sebastian Payne (1973) focuses on production, whereas the other generated by Richard Redding (1984) looks at herd security/stability and energy/protein maximisation.

A herd maintained for milk would show quite a different kill-off pattern when compared with one aimed at meat production. In order to preserve milk supplies, young males are slaughtered shortly after weaning, between one and two months. If wool or mohair is the exploited product, then both male and female animals are kept through to old age, and the animal bones would reflect a slower mortality rate. Finally, we should be aware that a claim of any form of specialised pastoralism (nomadic, semi-nomadic, or transhumant), involving a high or considerable degree of mobility, needs to be substantiated by evidence in the animal remains. There is no straightforward rule of thumb to determine specialisation, but a number of criteria need to be met. These include data associated with the intensive management of a herd, such as restricted age and sex distribution, and gaps (or peaks) in the culling patterns. A seasonal site, for instance, might have a sample with more examples of tooth eruption than normal.²²¹

Turning to the archaeological evidence, we find ourselves guided by a handful of published modern studies of animal bones. These are the samples from Gegharot in north-western Armenia, Sos Höyük in north-eastern Anatolia, Arslantepe in east-central Anatolia, and Godin Tepe in west-central Iran.²²² Interestingly, in each of these cases, it appears unlikely that mobile pastoralism was an element of the Kura-Araxes economy, partly because it is a riskier form of subsistence than settled mixed farming. Moreover, the areas where the Kura-Araxes tradition spread, including the highland pastures, would not have necessitated mobile pastoralism, compared to, say, the landscapes inhabited by ancient communities of the lowland Turkish-Syrian steppe or Zagros flanks.

Skeletal and dental evidence from Sos Höyük does not reveal specialised pastoralism as was once thought. Instead two studies of different sample groups have shown that the ancient villagers at Sos adopted a conservative herding strategy that minimised risk by diversifying the resource base. Hence, the animal remains from the site show a consistently high proportion of sheep and goats, followed by moderate amounts of cattle bones, and very few pig remains.²²³ This broad-based production system would have acted as a buffer in difficult circumstances, providing the community with subsistence-level meat and dairy foodstuffs. That young male animals were slaughtered before they gained their full weight suggests that high meat yields were not one of the aims. Sheep greatly outnumber goats in all periods defined by the Kura-Araxes. This profile makes sense, given the high-altitude environment and the availability of grazing land the high plains would have offered; goats like other browsers, on the other hand, would have preferred leaves and green stems from

²²¹ For a summary of these criteria, see Piro 2009: 74–5.

²²² Bartosiewicz 1998, Bökönyi 1983 (Arslantepe); Crabtree 2011 (Godin Tepe); Monahan 2007 (ArGATS); Howell-Meurs 2001, Piro 2009 (Sos Höyük). See also Porter 2012.

²²³ Howell-Meurs 2001; Piro 2009.

plants. The relative increase in goat numbers compared to sheep in the Early Bronze Age II–III period might be the result of any of several environmental issues. Overgrazed land is the most likely reason. This could have been caused either by too many sheep per acreage, or the adoption of agricultural intensification through the keeping of cattle, which, as grazers, would have competed with sheep. The sample from Sos Höyük belongs overwhelmingly to that of domestic animals. Of the wild taxa, red deer is amongst the most prominent, but even then they account for only two per cent of the sample collected. Moreover, the skeletal remains of red deer, whose antlers were used to fashion tools, show no signs of butchery marks, indicating that the remains were collected from the environment.

Gegharot provides a comparable picture in terms of risk management, even though the proportion of animals kept is different. While the sample size is very small, amounting to no more than 400 identifiable specimens, the higher number of cattle bones (49 per cent) compared to sheep/goat bones (47.4 per cent) indicates that the community was clearly sedentary.²²⁴ There is no evidence at Gegharot to support an argument for specialised pastoralism, or the seasonal movements that it requires. A broadly similar animal profile is found at Mokhra Blur Level V (caprine 50.2 per cent; cattle 42 per cent).²²⁵ Here again we encounter an agro-pastoral community with a low risk economic subsistence strategy based in part on the exploitation of a broad range of products from a diversified herd of domestic animals. So despite the difference in altitude between Gegharot, located in the highest altitudes, and Mokhra Blur, situated in the Ararat Plain, their economic subsistence is very similar.

A different situation is seen at Godin Tepe. In the first instance, the great majority of animal bones belong to sheep and goats (80 per cent), with cattle accounting for only 10 per cent.²²⁶ The culling patterns indicate that most animals survived well past their early stages, suggesting that the herders at Godin were primarily interested in wool, mohair, and possibly dairy products. Even so, the data from Godin does not readily fit the usual models of management strategies. That so few young lambs and goats are represented has been interpreted as that they were raised away from the site. The absence of sharp peaks in the mortality patterns and various pathologies symptomatic of penning pressures points to a village occupied year-round, with an agro-pastoral economy.

Of all the Kura–Araxes sites that have published zooarchaeological data, Arslantepe best fits the model of a specialised pastoral system.²²⁷ Whereas Period VII shows an equal proportion of cattle and sheep/goat bones

²²⁴ Monahan 2007; Badalyan et al. 2014: 163.

²²⁵ Piro 2009: 279–82.

²²⁶ Crabtree 2011.

²²⁷ Bökönyi 1983; Bartosiewicz 1998.

(ca. 40 per cent), the subsequent periods reflect a marked increase in caprines, peaking at over 80 per cent in Period VIA. This dependency on caprines was largely not affected after the centralised palace economy collapsed. The kill-off patterns at Arslantepe VIA and VIB have been interpreted as reflecting a production system focused on meat and probably wool. It remains unclear, however, how such a specialised economy could have been maintained within two vastly different economic systems.

These comparative sketches indicate that Kura-Araxes stock-keepers did not have a uniform management system. Instead, it appears that pastoralism across the Kura-Araxes region is more complex and varied than we have realised. Even though the sample is small, the production systems do not conform to any apparent patterns according to environmental setting, chronology, or even socio-political organisation. Hence, high mountainous sites (Sos Höyük and Gegharot) do not share close similarities, whereas sites situated at different altitudes (Gegharot and Mokhra Blur) do. Likewise, settlements with markedly different socio-political systems (Arslantepe VIA and VIB) have relatively close herding strategies.

AGRICULTURAL PRACTICES

In contrast to the decades of rigorous and systematic archaeobotanical studies in the Near East, the sampling of macro-botanical (as opposed to palynological) remains as a means of informing a range of issues from ancient diets through crop choice to land use and subsistence economies have only just begun in the Caucasus. For the Kura-Araxes period, we have some thirty sites that have reported macro-remains, but of these only the handful that have been investigated recently provide the type of detailed information that is requisite for informed conclusions. The most detailed information we have comes from Armenia. Unlike the Chalcolithic period, when various species of cereal, pulses, and oil-plant were farmed, the Kura-Araxes communities preferred more specialised agricultural practices focusing on a restricted range of cereals.²²⁸

Two-rowed and six-rowed hulled barley was the crop most cultivated by farmers, as vividly attested by the thousands of in situ grains preserved in jars at Gegharot and Aparan III. Virtually all the wheat crops were also cultivated, with einkorn recorded only in very small quantities. Other cereals include rye and broomcorn millet, pointing to some form of mixed agriculture. The ratio of wheat to barley appears to be altitude-specific, leading Hovsepyan to conclude that, 'the higher the elevation of the site the more the ratio of hulled ley is over wheat and vice versa'.²²⁹

²²⁸ Hovsepyan 2015. See also Hovsepyan and Willcox 2008; Longford et al. 2009; Kakhiani et al. 2013: 40–48; Messager et al. 2015.

²²⁹ Hovsepyan 2015: 77.

A recent study of samples from Chobareti, situated at 1,600 m asl, however, seems to go against the trend, showing that the crop most cultivated by farmers was *Triticum* (wheat), specifically naked wheat and probably the hexaploid form (*T. aestivum*), contrasting with very low quantities of barley.²³⁰ The absence of pulses, notably lentil, pea and bitter vetch, popular in the Neolithic and Chalcolithic kitchens, is conspicuous in the Kura-Araxes diet. Hovsepian also notes that during the Early Bronze Age, in the mountainous regions, pulses were risky crops, susceptible to low yield and failure. Moreover, he suggests that their nutritional value was possibly replaced by protein derived from an increase in animal husbandry and concomitant economic mobility.

Catherine Longford has provided new insights on Kura-Araxes agriculture.²³¹ Drawing on material from Sos Höyük and Chobareti, she has argued that the Kura-Araxes communities not only had a settled, mixed agro-pastoral economy, but the high proportion of hexaploid free threshing wheat and two-row hulled barley is quite a distinctive feature. Indeed, hexaploid free threshing wheat appears to be a 'signature cereal' of Kura-Araxes agriculture from as early as 3500 BC, adding yet another feature to the horizon's cultural package. This contrasts markedly to other sites in the Near East, where free threshing wheat did not gain popularity until the second millennium. Why free threshing wheat? One reason could be related to storage and agricultural risk. That is, the hulled wheats were stored as spikelets because the toughened glumes offered protection against pests.

CONCLUSION

If we were to distinguish the Early Bronze Age from the other periods covered in this book, it would be on the basis of scale and contingency. On the one level, we need to delineate expansive social processes: the onset of the rapid spread of traits over large areas, the strong possibility of human migrations, the interplay of different cultural traditions in the formative stage and on frontiers such as the Anatolian Upper Euphrates region, and several other developments besides. Yet, on another scale, we seek to interpret these broad developments through evidence of individual and group agency, through the remnants of routine life in villages, and through the resources and environments that structured the known world of Kura-Araxes communities. These contingencies have self-regulatory consequences and in the case of the Kura-Araxes system, values and collective ideology were rigidly adhered to.

²³⁰ Messenger et al. 2015: 222.

²³¹ From papers delivered at the 10th ICAANE conference (Vienna, April 2016) and the conference 'On Salt, Copper and Gold' (Tbilisi, June 2016). I would like to thank Catherine Longford for discussing this matter, which is based on her PhD thesis (Sheffield University).

Four salient points, to my mind, encapsulate the Kura-Araxes cultural tradition. Taken together they suggest that what we call the Kura-Araxes cultural community was, in fact, a conglomerate of multi-ethnic groups (shown by regional variability), who shared a social and collective identity.

First is its cultural package: a distinctive collection of artefacts and features that displays broad similarities despite vast geographical distances. It is the tenacity with which these deeply conservative communities retained the basic elements of this package that warrants the continued use of the term Kura-Araxes, even though regions certainly show variations on the same theme. Connected with this is the view that the presence of Kura-Araxes material may reflect either the migration of population groups, or the adoption of a new social model by local residents. The notion of a Kura-Araxes ‘archipelago’ mentioned at the beginning of this chapter is an apt metaphor for this cultural *oikoumene* – strong threads of unity that frayed with distance.

Second is the sense of place. The Kura-Araxes community attached great significance to locality. For the most part, settlements were not established on earlier sites. Instead, homes were built on new land. Although the majority of hamlets were situated in highland plains, many were also in mountainous terrain, forging that highland-lowland connection that characterised the Early Bronze Age. The spatial relationship between house and tomb also changed, suggesting that territorial boundaries probably based on kinship structures were altered.

Then, we have houses and households. We have seen that the mode of domestic architecture varied dramatically across space and time, yet the concept of internal architectural space was quite standardised. There is no question that the house was the focal point of economic, craft, and ritual activities. Distinctive features such as benches and hearths and their arrangement within the home, which determined how the household functioned, connected distant lands from north-western Iran to eastern Anatolia. The constraints of a domestic area would have meant that social activities and the distribution of goods around the house were probably well defined. Thus, the ‘blueprint’ of a Kura-Araxes home is a clear expression of both social unity based on kinship relationships and a conservative building code.

Finally, all these characteristics emphasise the cultural discontinuity between the Chalcolithic, on the one hand, and the Early Bronze Age Kura-Araxes on the other. What stimulated this dramatic change, heralding a novel set of enduring ideologies, is a matter that still eludes us.

CHAPTER 6

DOLMENS FOR THE DEAD: THE WESTERN CAUCASUS IN THE BRONZE AGE (3250–1250 BC)

To the Bagovski, the dolmens, which they considered to be very old, were the dwellings of a race of dwarves, which once occupied the area, and the work of a race of giants, their neighbours, who, pitying their weakness, built these solid shelters for them. The hole pierced in one of the slabs was the entrance of the dwelling. According to this legend, the giants had such strength that they could carry on their shoulders all the stones needed for the buildings.

(Translation of Chantre 1885: 58)

Shortly after the advent of the Kura-Araxes complex in the mid-fourth millennium BC, the western Caucasus spawned its own highly distinctive traditions. One of these peppered the foothills of the mountains and is easily distinguishable by its dolmens – megalithic edifices for the dead. The other cultural tradition, known as Colchian, occupied the wetlands and lowlands for well over two millennia (Chapter 11).

Dolmens are accessible aboveground burial chambers, usually megalithic in construction, covered by a barrow and intended to house several or multiple individuals. They are most often associated with Western Europe, especially the Atlantic façade, where the oldest and most elaborate are situated.¹ There they form part of the megalithic building tradition. Although there is no ‘dolmen culture’ as such, for these megalithic structures are a global phenomenon, in the north-western Caucasus we find one of the greatest concentrations in the world. They are relatively little studied and even less understood in western scholarship.² In the Caucasus, these edifices should be studied with reference to their own historical and geographical conditions.

¹ This is a vast topic. For introductions on the west European megaliths, see Cunliffe 2008: 159–67; Sherratt 1990; Scarre 2002; Cunliffe 2008: 159–67.

² For an overview survey of dolmens across the world, see Joussaume 1987.

The west Caucasian dolmens are now dated as early as 3250 BC and they ceased to be built towards the end of the second millennium.³ Their geographical distribution is relatively small. They are nestled on the wooded mountain slopes of the north-eastern Black Sea coast, within a swath of land generally less than 100 km wide. In territory, they cover approximately 12,000 km² that stretches from the Anapa near the Taman Peninsula in the north-west through the Kodori River in Abkhazia, and thence to the mouth of the Kuban River and its tributaries, including the Laba and Belaya, which define the northern boundary of dolmens. A second type of dolmen is located in Adygea region, the heartland of the chiefly Maikop burials. These are the so-called Novosvobodnaia type and number no more than a dozen (Chapter 4).⁴

Most dolmens are located between 250 and 400 m asl, though a few are sited over the 1,000 m mark. Although many of these monumental structures have been destroyed, conservative estimates suggest that some 3,000 of them once dotted the verdant slopes of the western Caucasus (Figure 6.1).⁵ Of this total, 160 dolmens have been excavated. While many dolmens are isolated structures in the landscape, there are also dense concentrations of several hundred. The largest cluster is along the Kizinka River, near Bagobskoi, where 564 structures stretch across several kilometres.⁶ In other areas, dolmens are found in pairs through to several dozen.

The origins, classification, and development of dolmens are topics that have exercised the minds of antiquarians and prehistorians for many generations. Yet, dolmen complexities and regional interrelations are barely understood. These striking expressions of monumentality first attracted the attention of European traders whose ships were plying the waters of the Black Sea. Amongst the merchants was Taitbout de Marigny, a French-born aristocrat who worked in the service of the tsarist government. During his dealings with the mountaineers of Circassia in the 1820s, de Marigny repeatedly visited the areas of Gelendzhik and Pshada, where he began to document and even excavate some of the dolmens.⁷ This initial foray into the wooded mountains of the western Caucasus led to a steady interest in the antiquity and ethnography of the region. Peter Simon Pallas, James Stanislaus Bell, Anton Ashik, and Dubois de Monpierre were amongst the early enthusiasts.⁸ Then came the Crimean War (1853–1856), which effectively closed the door between Russian and West European researchers. This initial nineteenth-century flurry of activity in the

³ Trifonov 2014; Trifonov et al. 2014.

⁴ Rezepkin 2000, 2012.

⁵ Markovin 1994a: 229.

⁶ Markovin 1994a: 229.

⁷ For a short history on dolmen investigations in the Caucasus, see Markovin 1978, 1994a; Trifonov 2001: 21–2.

⁸ Although Pallas (1799) is often acknowledged as the first to bring dolmens to the attention of western European scholars in the early nineteenth century, Trifonov (2001) thinks it was de Marigny.

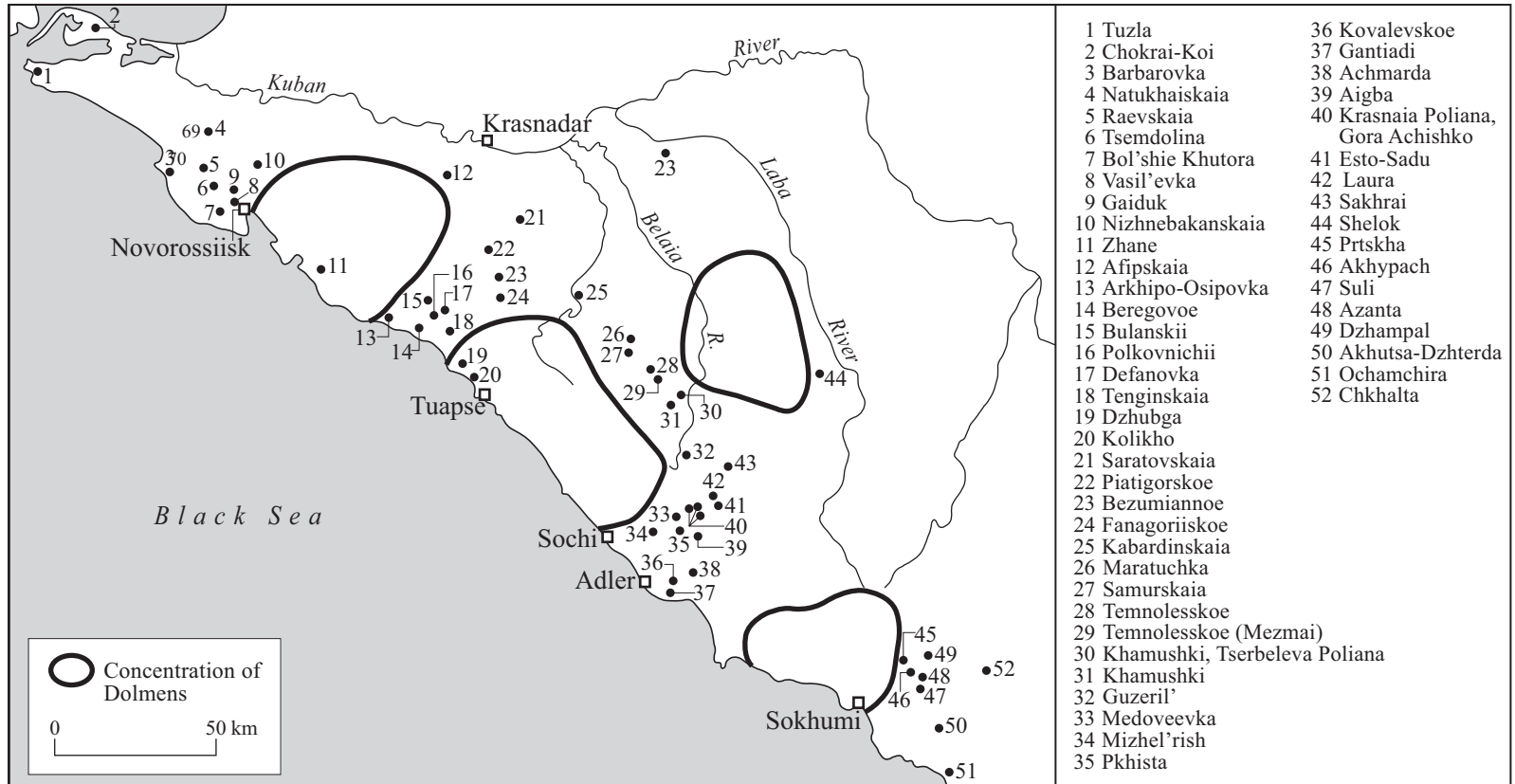


Figure 6.1. Map showing the distribution of dolmens in the western Caucasus (drawn by C. Jayasuriya after Markovin 1994a).

remote mountains of Abkhazia was both a blessing and a curse. It certainly whetted appetites in Europe for the antiquities of southern Russia, yet over time the link that was made between the dolmens and their megalithic counterparts in the west turned out to be a ball and chain that effectively hampered an independent understanding of the Black Sea structures.

Another more damaging restraint has been the unwavering focus on the most conspicuous element of the dolmens, namely the mortuary chamber. Such has been the fetishism associated with these visible edifices and their contents that the other structural elements of dolmens were entirely overlooked or wantonly destroyed. The crude field methods employed until recently are candidly expressed by Viktor Trifonov:

Russian archaeologists practised an oversimplified, rather primitive and often quite destructive method of dolmen excavation. This method limited itself to first digging inside the burial chamber, then digging a very narrow strip around the façade – or they bulldozed any structures around the burial chamber to provide quick access to it. ... This method of excavation finally resulted in a commonly adopted impression that the Caucasian dolmens were freestanding megalithic burial chambers without any additional external buildings or architectural structures.⁹

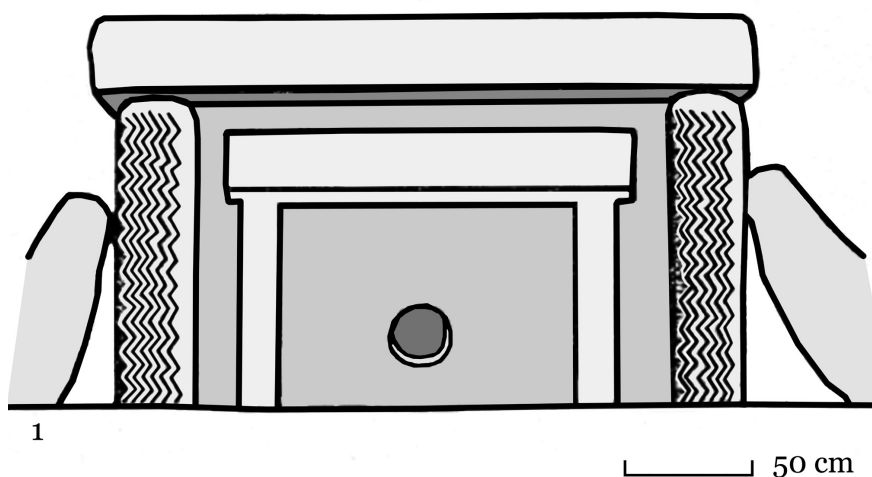
What, then, are the features of a dolmen? The Zhane dolmens, a cluster of three structures well known for over a century, assumed to be freestanding rectangular burial chambers, provide the key attributes. They are built of well-squared, heavy, stone slabs (orthostats), which are placed on their edges and fitted together with considerable precision (Figure 6.2(1)). The side uprights project forward to define the porch, and their butt ends are decorated with a vertical pattern of incised zigzags. A massive flat capstone forms the roof, which overhangs the entrance and slopes down towards the rear. Access to the tomb was through a relatively small circular (25–45 cm) portal, which is framed by a false lintel and uprights carved into the front slab. Inside the central chamber the walls are ornamented with incised zigzags and pendant triangles. In all cases, dolmens were built to maximise the sunlight on the façade – most face southwards, whereas some look east.

A recent watershed project (1999–2005), which re-investigated Zhane using modern field methods, revealed further inherent features.¹⁰ A stone-paved courtyard, probably the scene of rituals prior to the deposition of the deceased, defined the frontage (Figure 6.2(2)). Measuring approximately 300 m², it was large enough to accommodate a sizeable gathering. The rectangular courtyard at Klady Barrow II, Tomb 54 was even larger – a rectangular open space covering about 1,000 m² in area (Figure 6.3).¹¹ Other dolmens were occasionally

⁹ Trifonov 2013: 323.

¹⁰ Trifonov 2009a.

¹¹ Rezepkin 2012: fig. 32.



2

Figure 6.2. Zhane dolmen 2: (1) façade (after Voronov 1979); (2) view of the courtyard (courtesy V. Trifonov).

fitted with a raised platform near the entrance. The tomb at Zhane was enclosed on three sides by a horseshoe-shaped stone cairn, 25 m at its widest point, carefully constructed with riverine stones. A curved drystone wall, 2.5 m high, acts as a boundary between the cairn and the courtyard. The extensive use of tongue-and-groove joints in the Zhane dolmen and its construction on virgin soil leaves no doubt that it is an integrated structure built in one phase.

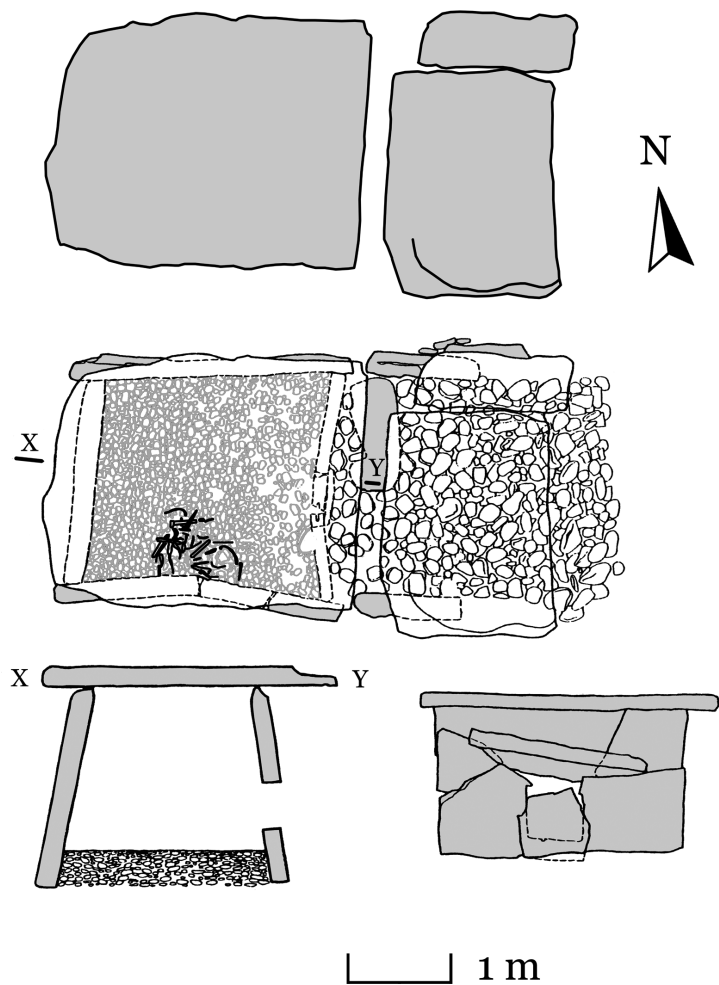
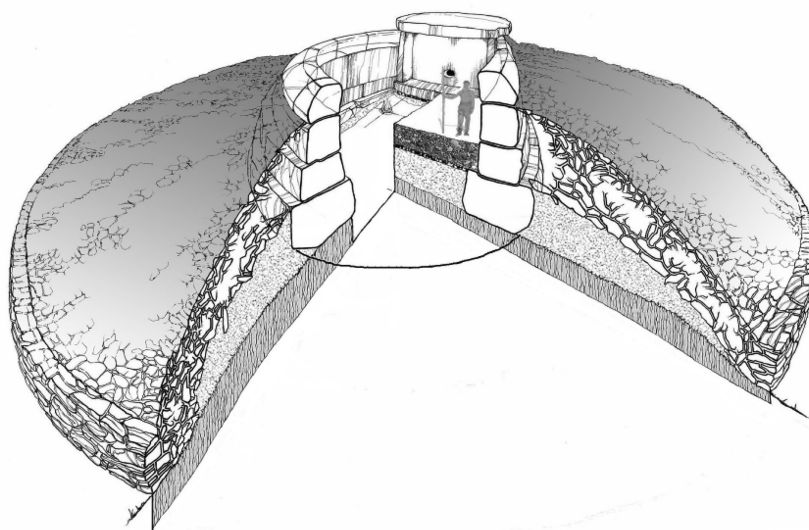


Figure 6.3. Klady Barrow 11, Tomb 54 (after Rezepkin 2000).

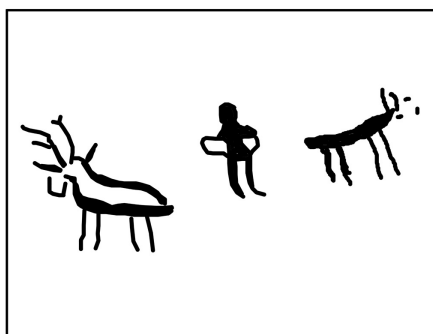
Modern field techniques have also altered our perception of the Dzhubga dolmen, one of the largest in the western Caucasus. Dzhubga has been studied since the 1870s, and the consensus until recently was that it, too, was a free-standing structure with some later additions (a courtyard and its boundary wall).¹² In 2006, a new expedition began to expose a much more complex structure, covering an area of about 700 m² (Figure 6.4(1)).¹³ The burial chamber is spacious but plain, with a low portal cut into the façade. In front of the chamber is a circular courtyard defined around the edge by a 2.5-m-high sandstone wall with no apparent entrance. The wall is four courses high and constructed using well-shaped sandstone blocks tightly fitted together without mortar (ashlar masonry). To maintain the overall curvature of the wall, the

¹² Markovin 1978, 1997.

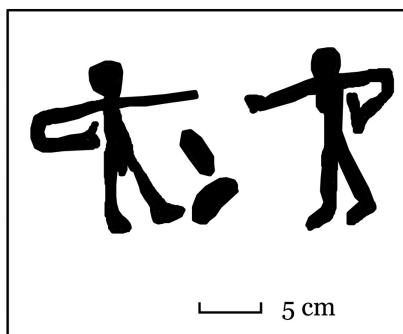
¹³ Trifonov 2009b.



1



2



3

Figure 6.4. Dzhubga dolmen: (1) Reconstruction (2–3) incised decoration on the walls of the dolmen (after Trifonov 2009b).

exterior of each block was slightly curved. The wall was then decorated with a unique set of carvings – simple anthropomorphic stick figures and animal images (Figure 6.4(2–3)).¹⁴ Finally, the dolmen was concealed under a stone barrow.

Despite the less than satisfactory field techniques, Soviet classificatory schemes of the burial chambers are useful. They are based on the mode of construction (whether single or multiple slabs of stone), the dimensions of the basic elements such as the porch and rooms, and the nature of features like access holes. Vladimir Ivanovich Markovin, an influential scholar of Caucasian archaeology, who excavated dolmens over a period of eight years (1967–1975),

¹⁴ Trifonov 2009b: figs 4–5.

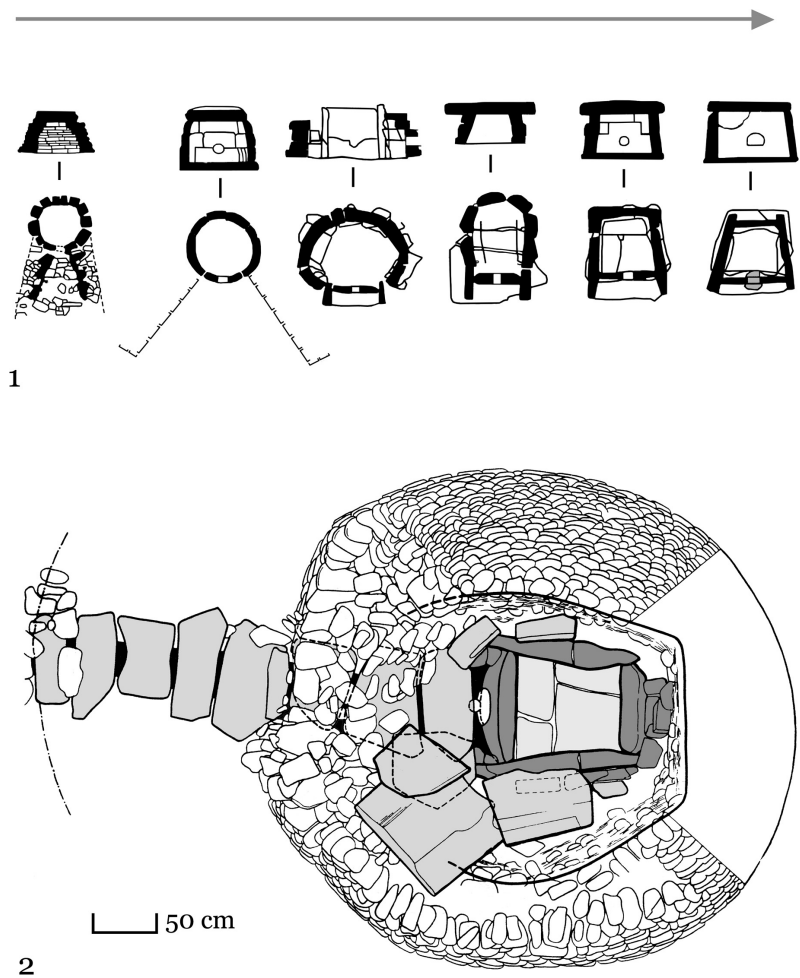


Figure 6.5. (1) Possible sequence of the development of dolmens (after Trifonov 2001 based on Markovin 1994a); **(2)** Psynako dolmen 1 (after Markovin 1994a).

proposed the most detailed developmental scheme.¹⁵ According to Markovin, four main groups of dolmens can be derived from several characteristics – the external appearance, the size and layout of the internal chambers (rectangular, trapezoidal, circular, and semi-circular), and the structural arrangement of the stones. Dolmens began as simple plinth types, according to Markovin, and matured into complex structures. Viktor Trifonov tends to agree, broadly speaking, but has refined Markovin’s scheme and posited an evolutionary sequence from round dolmens to those with a trapezoidal plan (Figure 6.5(1)). Markovin’s classification should be noted for the morphological variants he isolated:

¹⁵ Markovin 1978, 1994a, 1994b. Other early attempts at classification include those by E. D. Felitsyn (1904) and L. I. Lavrov (1960). See also Trifonov 2001 for a description of specific dolmens.

1. **Plinth dolmens:** These are the most common and account for 94 per cent of the total number of dolmens, occurring at about 150 sites. This group is represented by four variants:
 - (a) The simplest, found mainly in Abkhazia, is a chamber built with four slabs of stone, distinguished by the absence of an access hole. The upright slabs were often grooved to accommodate the abutting stone, and were roofed with a large slab with plenty of overhang. Whereas most of these simple dolmens are rectangular in shape, reaching lengths of 2.5 m, others have a roughly square plan (ca. 1.5 x 1.5 m, or slightly smaller) with an earthen floor.
 - (b) Two chambers – a vestibule and a stone-paved burial chamber – distinguished the second variant. An access hole connected the two rooms and varied in shape according to the roof construction. Dolmens with gabled roofs had a small rectangular access hole, whereas those with a flat roof were provided with a round opening. These structures were not higher than 1.5 m, but could be 3 m in length. A wall of river pebbles encircled both types of structure. Two barrows at Novosvobodnaia are noteworthy: Barrow 31 contains a rich assemblage of funerary goods with multiple burials (Figure 4.5(1)), whereas Barrow 28 was decorated on one wall with a painting depicting weapons (Figure 4.8). Whether or not these structures should be placed with the dolmen culture of western Georgia, or whether, as their excavators would have us believe, they constitute a special category of megaliths, is a contentious issue (Chapter 4).¹⁶ Another modification of this basic two-roomed dolmen has a roofed portal. Its burial chamber has a lower roof and, owing to the slope of the land that forms the earthen floor, it is quite close to the ground at the back of the chamber. In plan, these structures are roughly trapezoidal, reaching up to 2.65 m in length, and its side walls are constructed from three large megaliths.
 - (c) The third type is truly monumental. Side walls are now built from massive, well-dressed, single slabs of stone that weighed up to 25 tonnes and projected forward to create a porch. Their roofs were stepped, comprising two capstones: a higher roof covered the porch and a lower roof sealed the sepulchral chamber. Their round access hole was plugged with a mushroom-shaped stone. These massive dolmens are rare and their maximum dimensions are impressive: longer than 3.5 m in length, about 2.5 across the front, and taller than 2 m high. Chambers can be both rectangular and trapezoidal. Whereas most of these structures were carefully built,

¹⁶ Bochkarev and Rezepkin 1980; Bochkarev, Sharafutdinova, Rezepkin et al. 1983.

some smaller versions appear to have been constructed somewhat haphazardly.

- (d) A unique variant in this category was recorded in 1896 by N. L. Kamenev, but regrettably has since been destroyed. Buried under a mound of stone rubble, it consisted of an eleven-sided chamber set on a stone platform, with a square access hole and a roof comprising triangular stone slabs.¹⁷
- 2. **Composite dolmens:** These structures are composed of stone slabs and blocks.
 - (a) Some dolmens of this group share with the plinth type a trapezoidal plan, but a good number have a circular or polygonal chamber. In many of these dolmens the façade is not emphasised.
 - (b) Another variant, close in design to the plinth type, has a well-defined porch with an overhanging roof. The façade can be rounded or flat. These structures can be massive – one of the Guzeripski dolmens measures 5.8 m in length and rises 3 m above the ground.¹⁸ Others near Aderbievka and Gelendzhik had L-shaped blocks, the former also decorated on the back wall with an incised zigzag pattern.
- 3. **Trough-shaped dolmens:** These are a smaller class of dolmens. Unlike the previous two types, their sepulchral chambers are carved from a long rectangular block of stone to form a monolithic box, which was sealed with a flat capstone. They imitate the plan and features of the plinth type and come in a number of variants.
 - (a) The simplest variant resembles the earliest plinth form in having no access hole. Its dimensions are about 1.5 x 1.4 x 0.6 m.
 - (b) Another version has relatively thin walls and a trapezoidal plan, and in terms of proportions is clearly an imitation of the earlier plinth variety. Both large and small varieties are found.
 - (c) The third type is carved out of a large block of stone. While the chamber (trapezoidal in shape) and the façade are well finished, the rest of the block is left unfinished. The blocks can be massive, up to 8 m in length, with chambers measuring no more than 2 m in length and width; the height of the chamber is between 1.8 and 0.8 m.
 - (d) The distinctive element of this tomb is its camouflaged access hole, placed on the rear wall. By contrast, the façade has an imitation access hole produced by a protruding knob of stone.
 - (e) Only two examples are known of this rare type, both occurring within the town of Adignalovo. It is essentially an inverted

¹⁷ Markovin 1994a: 235.

¹⁸ Markovin 1978: 144–9.

trough – a carved block with access hole, turned over so that it resembles a shell on an earthen floor.

4. **Monolithic:** The final category of dolmen is carved into a rock face. It has a recessed façade and a deep burial chamber that extends up to 15 m into the rock face.

A few of the dolmens, situated on the Black Sea coast at the westernmost end of the Caucasus Mountains, are decorated with either an engraved or a painted design (Figures 6.4(2–3) and 6.6(1)). Designs were usually placed in the burial chamber, on the projecting walls of the porch, or along the front edge of the capstone. In addition, the outer surface of the capstone occasionally has cup-shaped hollows. Decoration in the burial room comprised a zigzag line, running along either the upper or the lower back wall, and floating groups of nested geometric patterns, again zigzags or wavy lines. Fugitive red ochre paint was also found. The façades of the dolmens were decorated with different combinations of the same motifs, with some of the vertical edges of the stone slabs displaying parallel rows of zigzags; the occasional circle is also encountered.

FUNERARY CUSTOMS AND BURIAL GOODS

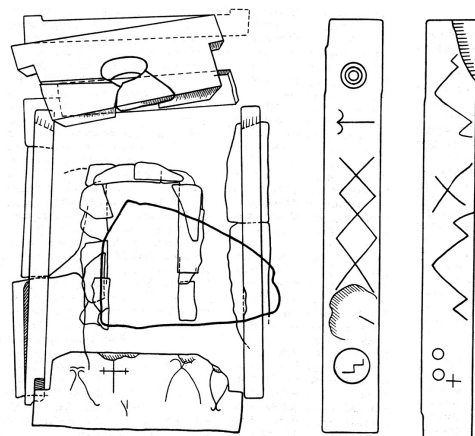
Single burials are rare, and restricted to the earliest dolmens. Most dolmens were constructed for multiple interments – up to five individuals was the norm, though chambers with ten or more individuals were found (Figure 6.6(3)). At Vepkhniaia Esher the bones of thirty individuals were accounted for (Figure 6.6(2)), whereas Kolikho had as many as eighty interments. Radiocarbon dates of stratified bones within the deposit at Kolikho indicate that the dolmen was in use for about 500 years.¹⁹

Both men and women, young and old, were buried in dolmens. How the deceased were deposited in the chamber has been clarified only recently. It appears that the bodies were either desiccated or they had their flesh removed prior to burial and their bones, including the skull, were placed in the burial chamber through the portal, which was then plugged. The same process was repeated with subsequent burials, eventually leading in some cases to a thick deposit of bones, especially along the side walls, where old bones were moved to make way for newer residents. In certain cases, such as the Shepsi dolmen of the Novosvobodnoi type, the skeleton was found in a contracted position on its side (Figure 6.6(4)). This dolmen has a portal-hole in the façade large enough (40 x 40 cm) to enable the entire body to be passed through.²⁰ Skeletons placed on their backs have also been reported.²¹ Human bones were

¹⁹ Markovin 1994a; Trifonov et al. 2012.

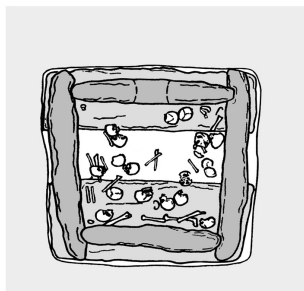
²⁰ Trifonov et al. 2014.

²¹ Kohl and Trifonov 2014: 1586.

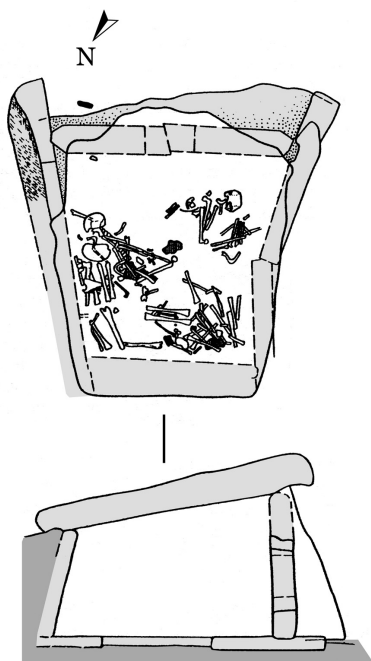


1

50 cm



2



3

20 cm



4

Figure 6.6. Various dolmen plans: **(1)** Sostavnoi Dolmen 2, plan and decorations; **(2)** Vepkhniaia Esher **(3)** Kizinka Dolmen 26, plan (nos. 1–3 after Markovin 1994b); **(4)** Shepsi dolmen, showing the partially preserved lower burial (courtesy V. Trifonov).

often mixed with those of domestic animals, including sheep and dog, some probably the remains of a burial feast.²²

The practice of exposing corpses has a history in Abkhazia and was noted by seventeenth-century travellers to the region.²³ Whether the funeral rites and feast were carried out at the dolmen, presumably in the courtyard, or in the woods nearby is difficult to ascertain at this stage.²⁴ In any case, these scenarios make more sense than the earlier impractical view that the capstone was removed with each burial and resealed. According to this theory, the portal had a purely symbolic function, namely as a type of server through which the ancestors could be fed.²⁵ Although there is evidence that some of the access holes were plugged, their small size may also have had a purely practical function – to prevent large scavenging animals from entering the chamber. A view of little merit, stemming back to the early 1900s but remarkably persistent, is that in a few cases (Bagovskoi, Krasnaia Palyana, and Vepkhniaia Eshera), the deceased were seated in the corners of the chambers and in the centre of the walls.

Psynako I kurgan is a special case and unique in the Caucasus. It comprises a trapezoidal burial chamber constructed from large slabs of sandstone covered by a stone cairn 6.6 m in diameter and 3.25 m high (Figure 6.5(2)). From the access hole extends a dromos 11.7 m long and covered with four large slabs of stone. The remains of a fire, perhaps ritual, was found at the entrance of the dromos and yielded a radiocarbon reading of 2340 ± 40 BC.

Dolmens had funerary provisions that consisted mostly of pottery, with some metalwork, stone artefacts, and personal jewellery items. The range of pottery forms is limited – high-shouldered cups and bowls, occasionally with handle joining lip to shoulder (Figure 6.7(1–6)). Certain vessels are ornamented with crudely executed incised geometric designs of nested zigzags, oblique lines, stabs, and pendant triangles. Amongst the metalwork tools and weapons we have knives, daggers, and axes (Figure 6.7(7–8, 11–12)). Daggers develop from rounded blades through a leaf-shaped variety to a triangular shape with midrib and occasional longitudinal grooves, similar to the late Maikop variety. Axes are rare and have a high (between 3.3 to 5.2 per cent) arsenic component. In form they are socketed and have a long curved blade comparable to the Sachkhere examples. Other items include awls and single hooks, often with a decorated socket, similar to the late Maikop variety (Figure 6.7(9–10, 14)). The most common jewellery item is the lunate hair ring (Figure 6.7(13)). Stone and bone items were rarely placed in dolmens. We have flint projectile points with

²² Markovin 1978: 274–7.

²³ Kohl and Trifonov 2014: 1586.

²⁴ See Kohl and Trifonov (2014: 1586) for the view that the ritual was conducted away from the dolmen, which was the last stage of the process.

²⁵ Markovin 1978.

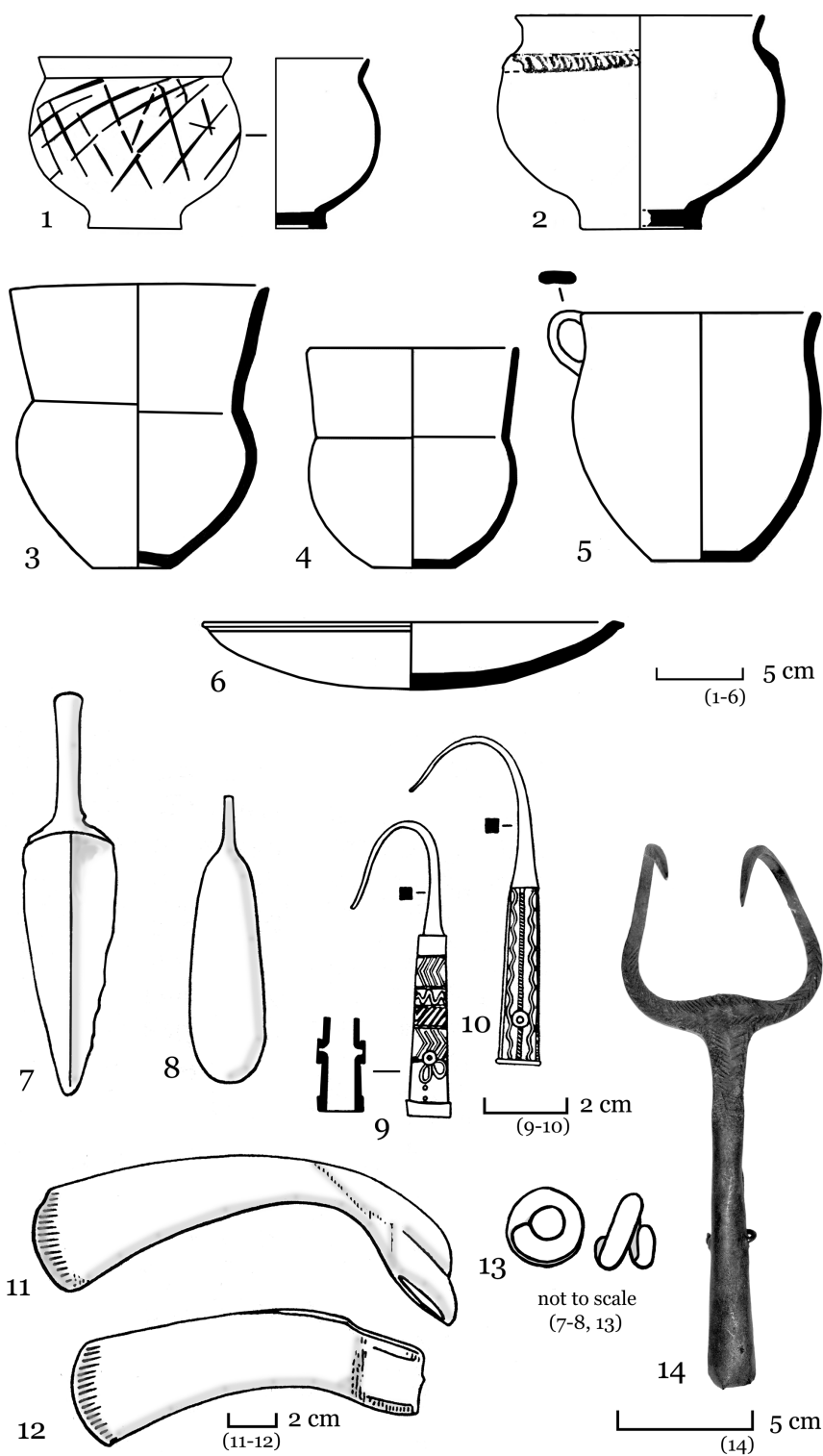


Figure 6.7. Dolmen material culture: (1-6) pottery; (7-8) daggers; (9-10) hooked items; (11-12) axes; (13) lunate earring; (14) two-pronged tool from Esheri (after Markovin 1994a; 14 photo A. Sagona).

a tanged and a notched base, scrapers, and spindle whorls and loom weights, pointing to the manufacture of textiles.

Continuing the earlier discussion on the Novosvobodnaia dolmens, it is worthwhile to distinguish their traits from other dolmen types. Rezepkin amended Markovin's scheme outlined earlier. Early on Rezepkin suggested that twin-chambered dolmens, especially common in the Novosvobodnaia area, which is situated between the culture provinces of the west Caucasian dolmens and the Maikop culture, bear a number of distinct characteristics that distinguish them from the majority of other dolmens.²⁶ Their interior designs differ, as do their plans. A pair of slabs that are placed close enough together to form a narrow gap to squeeze through usually separates two compartments – a paved burial chamber and an antechamber. Then there is the precision of masonry – blocks are invariably constructed with well-dressed slabs of stone, fitted with exactness. The plan of the Novosvobodnaia tombs comprises large slabs that form the roof and overhang the entrance, which faced south-east. Their mode of concealment is worth noting. The entire structure lay beneath a barrow of stones defined by a kerb. Finally, unlike other dolmens, Novosvobodnaia constructions were not used for collective burials. Instead they were resting places for single individuals placed on the right side of the chamber and accompanied by a rich assemblage of grave goods that occupied both compartments.

We know very little about the settlements associated with these dolmens. One is located near Gelendzhik, another in proximity to the Deguaksko dolmen, and a third at Starchik (near Novosvobodnaia). None has any evidence of defensive systems. The Deguaksko settlement had two layers, the earlier yielding a date of 2060 ± 80 BC. The upper layer at Deguaksko had rectangular structures with wattle-and-daub walls and earthen floors.²⁷ From the little faunal material we have available, these villagers were stockbreeders of ovicaprids, cattle, and pig.

MONUMENTALISM AND ITS MEANING IN THE WESTERN CAUCASUS

The abrupt appearance of dolmens in the Caucasus, seemingly unconnected with any indigenous traditions, has fuelled an unwavering pursuit of their origins since their discovery, and it shows no signs of abating. Elaborate models of diffusion, drawing parallels with megaliths stretching from Africa to the Indian sub-continent and appealing to notions of maritime and terrestrial migrations, have been constructed to account for these Caucasian anomalies.²⁸ But the

²⁶ Rezepkin 1991, 2012.

²⁷ Akhanov 1961; Markovin 1994a: 248–9.

²⁸ For summaries of the various ideas, Lavrov 1960; Markovin 1994a; and Trifonov 2013.

greatest attention has focused on the European megalithic tombs, and more recently connections with the Globular Amphorae and Funnel Beaker cultures have been resurrected.²⁹ But unlike Europe, where the wealth of evidence on Neolithic settlements and monuments enables a rigorous understanding of regional diversity, the western Caucasus is bereft of contextual particulars, and has only just moved beyond an evolutionary typology of mortuary chambers. Nevertheless, we must make a start and move beyond simplistic analogies.

For many years, given the old foreshortened chronology based on a few uncalibrated radiocarbon dates, it was customary to place the Caucasian dolmens within the period from about 2700 BC to 1300 BC.³⁰ With the appearance of refined chronometric techniques, the dolmens are now pushed back to at least 3250 BC, placing them roughly in line with tail end of the Neolithic in the western Caucasus and the beginning of the Proto-Colchian culture in the lowlands. To this rather foggy nexus of cultural traditions could be added the possible continuity of late Mesolithic hunter and forager groups in highland caves.

How, then, can we explain the conspicuousness of dolmens? They can be viewed in several ways, though none presents any clear path at the moment. On one level, dolmens may be treated as indicative of new forms of social organisation. The variations in size and decorations may reflect an emerging social complexity.³¹ One could also argue that the clusters of dolmens might reflect a territorial consciousness, such as boundaries of family groups, or perhaps be a response to a shortage of land. Although these scenarios offer an alternative to the idea that dolmens were intrusive structures, products of migrants, both arguments nonetheless have teleological overtones and are still basically evolutionary in scope. That is, dolmens are seen as part of the rise of social complexity, triggered perhaps by a local response to problems of population pressure.

We should bear in mind that despite the multiplicity of variant forms that the tombs take, their geographical distribution is fairly discrete – a region hemmed in by sea, lowlands, and steppes. A picture is emerging that with the arrival of farming groups, this north-eastern corner of the Black Sea was at the intersection of a number of traditions. Some already had the know-how required for cereal cultivation, whereas others, the late exponents of Mesolithic populations, continued their hunting, foraging, and fishing customs. It could be argued that this interaction between native and newcomer might hold the key to the beginnings of monumentality in the Caucasus.

Is it possible, for instance, that the dolmens are part of the transformation of indigenous foragers to indigenous farmers? If this were the case, these

²⁹ Rezepkin 1988, 2012.

³⁰ Markovin 1994a.

³¹ Kohl and Trifonov 2014: 1587.

monumental tombs with collective burials could be seen as the native expression of 'permanence', a response to sedentary villages. As yet we have next to no evidence on the relationship between settlements and funerary monuments to test this hypothesis. In the absence of large stable villages, dolmens might have functioned as a communal focal point, a permanent house of the dead for many generations. While stable residential units have yet to be discovered and properly investigated, it can be said that dolmens provided a long-lasting ritual counterweight. Drawing on the European experience, this 'indigenous model', whereby dolmens are seen as expressions of different social groups, appeals to local circumstances, without succumbing to notions of colonists or migrants.³²

³² Hodder 1984; Scarre 2002. Cf. Sherratt 1990.

CHAPTER 7

THE EMERGENCE OF ELITES AND A NEW SOCIAL ORDER (2500–1500 BC)

Go, baby, go: it must have been an exhilarating experience.

(Andrew Sherratt on animal traction)¹

Towards the end of the Early Bronze Age and through the subsequent Middle Bronze Age, the social and political circumstances of communities in the southern Caucasus changed markedly. Over much of the south-eastern Caucasus, in the plains of Kakheti, Alazani, and the Samtskhe-Dzhavakheti plateau that extends into northern Armenia, we have the appearance of new influences, perhaps new groups. These forces cut across the egalitarian traditions and values of the Kura-Araxes communities, who seem to have abandoned their villages.

Over the next millennium, the built landscape changed dramatically. Villages assumed a transient quality, possibly pointing to a mobile lifestyle based on stockbreeding, and today these shallow settlements are difficult to spot. Barrow burials, on the other hand, pepper the terrain from highlands to plains, and are the dominant feature across the lands. Some are large and richly furnished, built with mortuary houses that harboured astonishing wealth. Included were copious quantities of metalwork, amongst it the first tin-bronzes in south Caucasia, items of prestige, and a wooden wheeled vehicle or two. Other barrows are small, mere bumps rising no more than 50 cm above the ground. The varied sizes of these barrows and the different quantities of wealth they contain point to the emergence of social hierarchies and growing inequality. Control of territory and scarce resources, such as precious metals and cattle, no doubt contributed to the competition that led to this disparity. This was the period of new elites. It was also a period that produced unequivocal images of war and violence.

¹ Sherratt 2006a – an English translation of Sherratt 2006b.

There is another major point to consider. Even though the Kura-Araxes was a dynamic and vast culture province, much of its exchange of ideas and material things was intra-regional. On present evidence, there is very little to suggest that Kura-Araxes communities engaged in interplay with neighbouring cultures; it is as if a cultural ‘firewall’ prevented elements from the outside from penetrating their borderlands and rigidly constructed social spaces. These characteristics point to a rather self-referential complex. By contrast, the extent of the Middle Bronze Age barrow culture was well circumscribed and relatively restricted, firmly situated within the southern Caucasus, with easternmost Anatolia acting as its western boundary (Figure 7.1).² Yet compelling similarities between its artefacts and items from different cultural traditions as far away as the Aegean, the Levant, and Mesopotamia point to connectivity over long distances. Although the quantity and movement of things that have survived is not huge, other items that have long since perished, such as wooden utensils, textiles, carpets, furs and animal products, were also most likely exchanged.³

These social and cultural developments are brought into focus if we do not lose sight of the broader regional context. As the leaders in the southern Caucasus rose to power, evidence of settlement hierarchies dramatically increased in the Turkish Upper Euphrates region, where monumental buildings were erected at Norşuntepe and Tepecik during the Early Bronze Age III. These signs of emerging political complexity in east-central Anatolia echo the development of urbanisation and state formation that swept across Syro-Mesopotamia, from Ebla in western Syria across the Jazirah to Ashur on the banks of the Tigris in northern Iraq. Cities of this so-called second urban revolution extended their trade networks along the Euphrates corridor that brought Syro-Mesopotamian communities into close contact with sites in the Malatya-Elazığ region.⁴ The southern Caucasus, situated on the periphery of these developments, had its own expression of power and authority. The region had no centralised bureaucratic systems such as those in Syro-Mesopotamia, nor did it construct monumental buildings. Settlements, in fact, appear to have diminished in number and communities might even have assumed a more mobile existence. Instead, power and prestige in the south Caucasus was firmly grounded in the acquisition and display of precious objects.

CHRONOLOGICAL DEVELOPMENTS

The dramatic developments in the southern Caucasus unfolded in two stages, which are here attributed to the first phase of the Middle Bronze Age, generally ca. 2600/2500–2000/1900 BC. Sites of this group are sometimes called

² Sagona 2000.

³ Abramishvili 2010; Smith 2015: 138–40.

⁴ Akkermans and Schwartz 2003: 233–87.

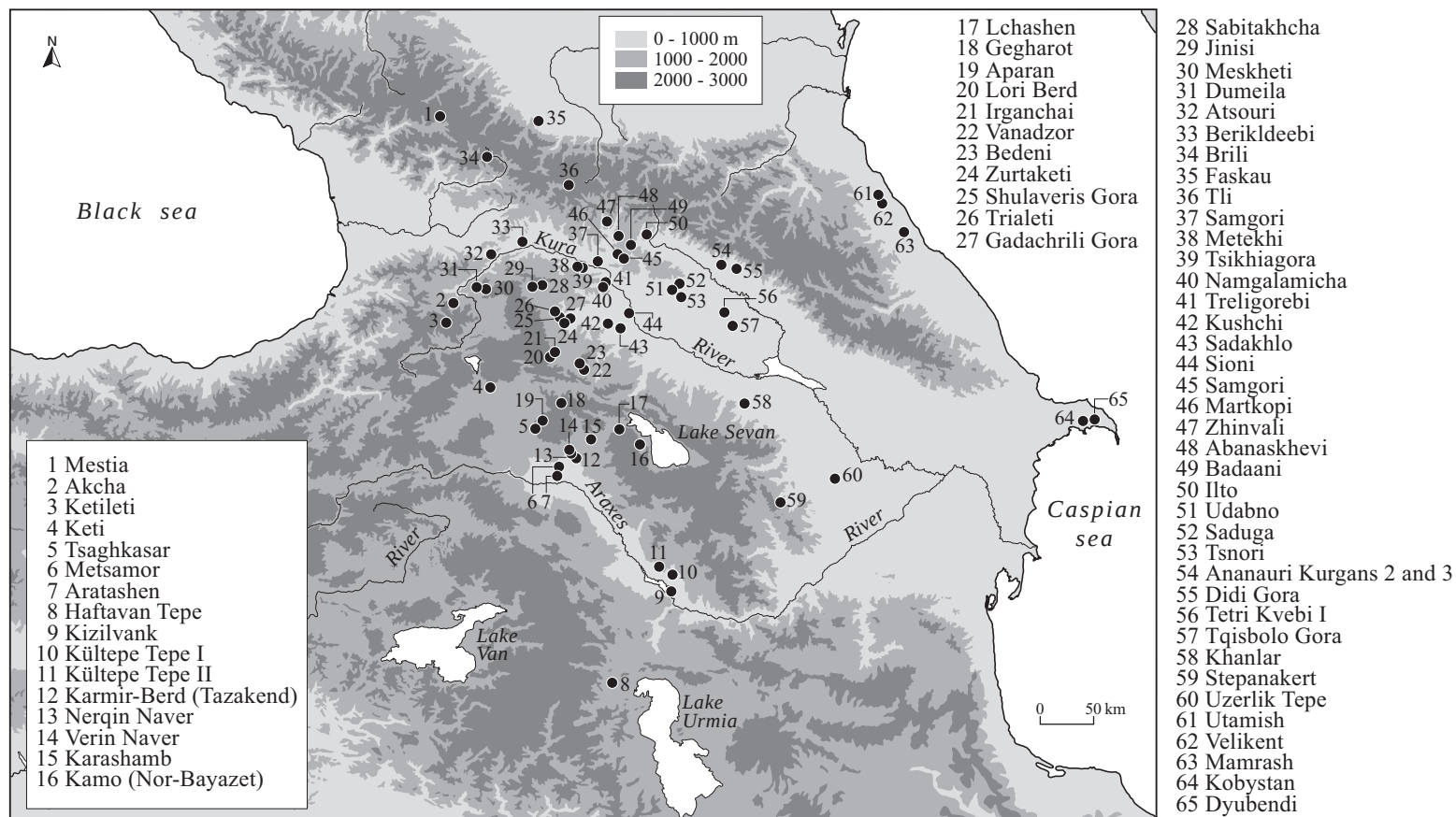


Figure 7.1. Map showing the key sites of the Middle Bronze Age (drawn by C. Jayasuriya).

the ‘early Kurgan (or Barrow) cultures’, now a rather anachronistic descriptor, given the discovery of rich Chalcolithic tumulus burials. Nevertheless, it was the Bronze Age burials that harboured spectacular displays of gifts, including finely worked items of precious metals. Two cultural horizons, Martkopi and Bedeni, generally define this period, which is not without problems of nomenclature. A cursory scan of the literature will reveal that the material culture of the so-called Early Trialeti and late Kura-Araxes horizons, especially ceramics, look confusingly similar to Martkopi.⁵ Indeed, this hybridity of items points to a transitional period from the Kura-Araxes, and in some studies the period of the Early Kurgans is assigned to the Early Bronze Age IV/Middle Bronze Age I.⁶ This is understandable given the patchy empirical evidence, but it would not surprise me if in future studies this period were to be assigned squarely to the Middle Bronze Age I. This would spotlight the period’s most conspicuous feature – the unfettered rise of inequality. To avoid misperception, I will use the term Martkopi, on the understanding that it often includes elements also attributed to the Early Trialeti and late Kura-Araxes.

Eleven new and hitherto unpublished radiocarbon dates can now help to define the chronological parameters of the Middle Bronze Age I (Figure 7.2), which was previously dependent on a set of rather incoherent readings.⁷ The beginning of the Martkopi phase is provided by sample of *Quercus* from Martkopi Barrow 4, which has yielded a reading of 2587–2474 cal BC [Wk-35425] at 95.4 per cent probability. This is slightly earlier than the two dates from the Bedeni. A sample of *Prunus* from Bedeni Barrow 5, dated to 2461–2277 cal BC [Wk-35413], corresponds to the reading from a few strands of wool from Barrow 10: 2465–2286 cal BC [Wk-35415]. Comparable to these is the reading from the Tetri Tskaro (Nadarbazevi) Barrow 2 [Wk-35426, 2474–2335 cal BC], taken from a loaf of baked bread, well preserved in the tomb chamber.⁸ Most important are the seven radiocarbon readings from the Bedeni settlement at Berikldeebi (Period III), which probably define the end of the Bedeni period in Shida Kartli. Four of the samples are charred cereals, whereas three are charcoal. Collectively they fall within a tight interlude around 2300–2100 cal BC.⁹

⁵ Sagona 2004.

⁶ Badalyan et al. 2009. For a summary of the various chronological schemes for the Early Kurgan period, see Makharadze in Makharadze et al. 2016: 14–15.

⁷ I would like to thank Mindia Jalabadze for providing these samples. Kavtaradze (1983; 1999: 86) prefers a very high chronology to define this period and suggests that both of the first two phases of the Trialeti culture (Middle Bronze Age I–II) should be placed in the third millennium BC. But the radiocarbon readings taken from samples from early excavations vary too much to draw firm conclusions.

⁸ This loaf and a rusk found with it comprise some of the earliest and best examples of baked foods, Kvavadze et al. 2016.

⁹ Radiocarbon dates, mostly single readings, scattered across Georgia and Armenia confirm the placement of the Bedeni horizon to the second half of the third millennium BC.

Lab. No.	¹⁴ C Years BP	Cal. BC Range (95.4%)	Material	Site & Context
Wk-35426	4028 ± 25	2587–2474	Wood, Quercus sp.	Martkopi Barrow 4
Wk-35413	3857 ± 25	2461–2277	Wood, Prunus sp.	Bedeni, Barrow 5
Wk-35415	3872 ± 25	2465–2286	Wool?	Bedeni, Barrow 10
Wk-35426	3915 ± 25	2474 –2335	Bread	Tetrisqaro, Barrow 2
Wk-35416	3802 ± 25 BP	2308 –2191	Charred cereals	Berikldeebi III
Wk-35417	3849 ± 40 BP	2461–2204	Charcoal, Rhododendron sp., or Betula sp.	Berikldeebi III, Pit 209
Wk-35418	3802±25 BP	2308–2191	Charred cereals	Berikldeebi III
Wk-35419	3800 ± 25 BP	2300–2190	Charred cereals	Berikldeebi III
Wk-35420	3810 ±27	2308–2140	Charred cereals	Berikldeebi III
Wk-35421	3808 ± 36	2350–2137	Charcoal, Quercus sp.	Berikldeebi III
Wk-35423	3742 ± 36	2213–2033	Charcoal, unidentified	Berikldeebi III, bottom of Pit 206

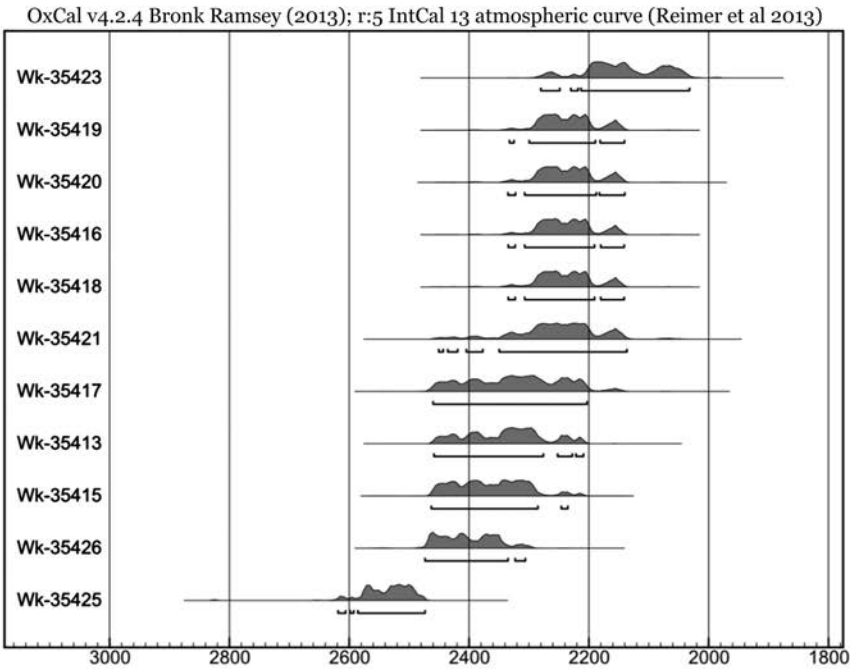


Figure 7.2. Radiocarbon readings from Martkopi, Bedeni, Tetri Tskaro, and Berikldeebi.

Existing dates generally confirm this chronology. Important amongst these are the recent chronometric dates from Mentesh Tepe.¹⁰ Three phases have been attributed to the Early Bronze Age: Phase 1 – the North Barrow (collective burial); Phase 2 (and 3) – pits; Phase 3 – South Barrow (burial four-wheeled vehicle). On the basis of ceramics, Phase 3 has strong connections with both the Martkopi and Bedeni traditions though ties with the Kura-Araxes assemblage are clear. Radiocarbon dates place Mentesh Phase 3 to about 2500–2300 BC. Phase 2 is earlier (ca. 2800–2450 BC). Notwithstanding the idea that Martkopi ceramics derive certain *elements* from the Kura-Araxes repertoire, the Mentesh Phase 2 vessels are more Kura-Araxes than Martkopi.

During the second phase of the Middle Bronze Age in the central south Caucasus (2000/1900–1700 BC), attributed to the Trialeti (or Trialeti-Vanadzor) complex, artisanship flourished and reached a high point. In traditional chronologies only the Trialeti culture defines the Middle Bronze Age. Exquisitely crafted items, including granulated, filigree, and inlaid jewellery, and gold and silver goblets, characterise the Trialeti material culture. Known largely from barrow burials, our understanding of the Trialeti complex has been supplemented in recent years by information from a few settlement sites.

The baseline and oft-cited chronological scheme, composed entirely on artefact typology, is the tripartite arrangement proposed by Elguja Gogadze.¹¹ According to him, the Middle Bronze Age I (the Early Trialeti phase mentioned earlier) fell within the period 2000–1700 BC. The Middle Bronze Age II is assigned to 1700–1500 BC, whereas the last phase, the Middle Bronze Age III, is dated to 1500–1400 BC. Karen Rubinson has refined this scheme, anchoring it to Anatolian glyptics for Middle Bronze Age II (1850–1700 BC) and comparative material from Iran for the Middle Bronze Age III (1600–1450 BC).¹² A further advancement was proposed by Mikheil Abramishvili, who suggested that the Trialeti Middle Bronze Age II period started no later than 1900 BC on the basis of similarities between the south Caucasian rapiers and

¹⁰ Lyonnet et al. 2012: 92; Lyonnet 2014. Other dates include single readings from Paravani (Kvavadze and Kakhiani 2010) and Tedotsminda (Mindiasvili et al. 2003), but information on the samples and processing is not enough to draw conclusions.

¹¹ Gogadze 1972: 95; 103–7. Briefly, according to Gogadze, the main attributes of his three phases are as follows: Middle Bronze Age I – black-slipped and polished ceramics with deeply incised ornaments, comprising pendant triangles, and wavy lines (this is the same as Early Trialeti); Middle Bronze Age II – pottery with designs executed with brown-on-cream paint, and black-slipped pottery with comb-stamped geometric ornaments; Middle Bronze Age III – black-on-red painted pottery. This latest style is found in a number of barrows, including Barrow XV, which also had a bronze spearhead with silver ring on the socket (see Kuftin 1941: Pl. CVI). Items such as socketed spearheads from northern Syria and the Aegean allowed Gogadze to further anchor his chronology (cf. Kuftin 1941: 85–6, 95–6).

¹² Rubinson 1977.

the Type A swords from the Aegean and the Levant.¹³ Even so, no scheme as yet adequately explains the transitions between the three Trialeti phases. At best we have a series of spot dates.

In the Middle Bronze Age III period (ca. 1700–1450 BC) the cultural homogeneity of the south Caucasus broke down, and cultural practices such as the appearance of stone cist tombs foreshadowed things to come. A series of richly painted pottery traditions, also found in eastern Anatolia and north-western Iran, heralded change, as the Trialeti complex petered out in the central south Caucasus.

THE NATURE OF THE EVIDENCE

A contextual analysis of the barrow burials from the Caucasus is faced with several difficulties. Plunder and re-use in antiquity is our first obstacle. Given the considerable investment of energy that went into constructing a barrow, the use of a pre-existing structure would have saved on effort and expense without losing the prestige associated with monumentality. Yet disentangling intrusive secondary burials from earlier interments is not always straightforward, especially when the grave furnishings reflect only modest change. Then, secondly, there is the issue of methodology. As was often the practice in the early history of archaeology, some of the less eye-catching items, such as plain coarse ceramics, were simply not collected.¹⁴ Furthermore, in the case of Trialeti barrows, it seems that some barrows were not fully excavated.¹⁵ To complicate matters, there is more than a sprinkle of conflicting and incomplete data and confusing terminologies. On the matter of burial terminology, I follow Roderick Sprague's classification when describing the form of disposal, the articulation and position of the skeleton, the number of interments and other elements.¹⁶

Jan-Krystoff Bertram has produced a thorough and useful study of burials and mortuary practices of this period. He is correct in suggesting that to understand distribution patterns it is necessary to take into account three inter-related criteria: the tomb architecture; the nature of the burials (number and position of the deceased); and the grave goods.¹⁷ Bertram has identified the following grave types concealed beneath barrows:

- Flat burial areas with no modification to the earthen surface
- Rectangular earthen pit graves
- Round, oval or irregular earthen pit graves
- Stepped earthen pit graves

¹³ Abramishvili 2001. On Aegean-Caucasian connections see Rahmstorf 2010.

¹⁴ See, for example, Robinson 1976: 25 with reference to the Trialeti barrows.

¹⁵ Zhorzhikashvili and Gogadze 1974: 16–17. For a history of research in the Trialeti region, see Zischow 2008; Narimanishvili 2010.

¹⁶ Sprague 2005.

¹⁷ Bertram 2003: 25–7.

Whereas Bertram's study focuses on the historical development of grave types, showing the remarkable diversity over this millennium and a half, other scholars have emphasised the assemblages, using them to develop elaborate chronologies, albeit in the absence of reliable radiocarbon dates.¹⁸

The following regional overview combines both approaches and examines the main archaeological traditions. It begins with the late Early Bronze Age (the second half of the third millennium BC) and then discusses the Middle Bronze Age developments of the second millennium BC. Geographically, it moves from the better known facies of the southern Caucasus to the north Caucasian foothills.

THE SOUTHERN CAUCASUS

EARLY BRONZE AGE IV/MIDDLE BRONZE AGE I (2500–2000 BC)

New results on the environment of the plateaus of the southern Caucasus during the third millennium BC show that, contrary to our earlier understanding, the region had a forest cover promoted by good precipitation and warm temperatures (Chapter 1).¹⁹ The degree to which environmental factors influenced change or choice is difficult to say. What is clear is the dramatic shift in human behaviour and material culture that appears to stem from eastern Georgia. The early Barrow period is sometimes referred to as Early Kurgan I and Early Kurgan II on the basis of grave goods, especially changes in pottery and metalwork, though radiocarbon readings now suggest the two stages overlap.²⁰ In any case, a slightly earlier group includes a few barrows at Trialeti, on the Tsalka Plateau, and others at Martkopi, in Kvemo Kartli, and Samgori. In Armenia, where the pulse is not so strong but is nonetheless evident, Martkopi is represented in the northern region, at sites like Berkaber, and also in the tombs at Shengavit in the Ararat plain.²¹ At present the western outlier is Sos Höyük, near Erzurum.²²

The second, better-represented, and slightly later group comprises the Bedeni barrows in the Alazani Valley and Shida Kartli. Bedeni is also represented in Armenia at several sites, in western Azerbaijan (Mingechaur) and in Dagestan (Velikent).²³ Again Sos Höyük appears to be on the western border, yielding just a few Bedeni imports. To these barrows should be added the few

¹⁸ Since Kuftin's (1941) report on the Trialeti barrows, there have been many studies on the chronology of the Trialeti culture, including Schaeffer 1943; Piggott 1969; Gogadze 1972; Rubinson 1977; Dzhaparidze 1994.

¹⁹ Connor and Kvavadze 2014; Kvavadze et al. 2004: 267.

²⁰ Dzhaparidze 1983, 1993, 1998; Edens 1995; Bertram 2010.

²¹ Smith et al. 2009: 52–5.

²² Sagona 2000.

²³ Dedabrishvili 1979; Gobedzhishvili 1980; Smith et al. 2009: 52; Gadzhiev et al. 1997; Smith et al. 2009: 52.

settlements and sanctuaries we have for the Bedeni period, such as Berikldeebi and Zhinvali. According to Zurab Makharadze, the Bedeni tradition is totally foreign to the southern Caucasus and its arrival from the north facilitated the decline of the Kura-Araxes complex.²⁴ The ‘invisibility’ of settlements may reflect research strategies that have targeted the conspicuous barrows; nonetheless, there is truth in the view that villages were more transient during this period.²⁵

Sachkhere: A Bridging Site

Before we look at Martkopi proper, we need to highlight a transitional site that straddled the Early and Middle Bronze Ages. Sachkhere is located at the northern edge of the Imereti Province in Western Georgia and has yielded more metal objects than at any other site of this period. These objects foreshadowed, in a striking way, the trend in access to resources and the emergence of inequality. Sachkhere comprises three locations: Nacherkezevi and Tsartsis Gora which are located in the township of Sachkhere, and Pasieti in the nearby village of Koreti.²⁶ G. Takaishvili conducted the initial small-scale investigations at Sachkhere in 1910, which were followed by Kufin’s intermittent excavations before and after World War II and Dzhaparidze’s 1955 expedition.²⁷

Typically, the Sachkhere mounds were built of stone – large ones around the base and smaller stones sealing the top. The graves consisted of earthen pits in which the deceased was placed in a flexed position, usually on the right side. None of the skeletal material is well preserved. In addition to the copious quantities of metalwork, provisions included handmade ceramics with a black polished exterior and pink smoothed inner surface, decorated with incised and relief patterns.

Amongst the bronze jewellery we have bronze lunate hair-rings, coiled bracelets, temporal rings, anchor pendants, and three types of pins: double spiral-headed, T-shaped, and loop-headed with a twisted upper shank, roughly in that chronological order, with latter two particularly well represented (Figure 7.3(1–6)).²⁸

Notable weapons are the bronze daggers with cast handles decorated in relief and perforated at the end of the hilt found at Tsartsisgora and Koreti (Figure 7.4(8)). But it is the axe that began a significant transformation that

²⁴ Makharadze et al. 2016: 16.

²⁵ Sagona 2004.

²⁶ Dzhaparidze 1992.

²⁷ Takaishvili 1913. Kufin opened ten barrows at Nacherkezevi in 1939 and sixteen more in 1951. Dzhaparidze renewed investigations there in 1955. Both also excavated at Tsartsis Gora and Koreti (Kufin in 1945–6, and Dzhaparidze in 1955). None of these sites is fully published.

²⁸ Gambashidze et al. 2010; Carminati 2014.

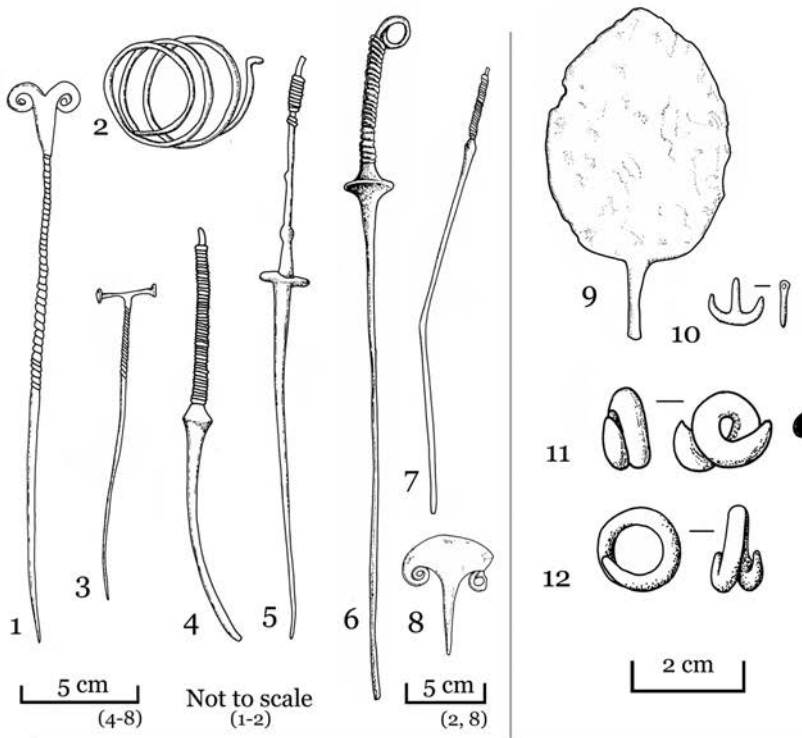


Figure 7.3. Late Early Bronze Age – Middle Bronze Age jewellery: **(1, 7)** Koreti; **(2–6)** Sachkhere, **(8)** Dzagina; **(9)** Martkopi Barrow 3; **(10)** Shida Kartli; **(11)** Silitschi Barrow 2; **(12)** Sos Höyük Burial (after Sagona 2004); **(13)** gold lion, Tsnori (courtesy Wikimedia Commons); **(14)** pendant from necklace, Ananauri (Kakheti) Barrow 2 (after Pitshelauri 2006); **(15)** necklace Ananauri (Kakheti) Barrow 2 (after Abramishvili 2010).

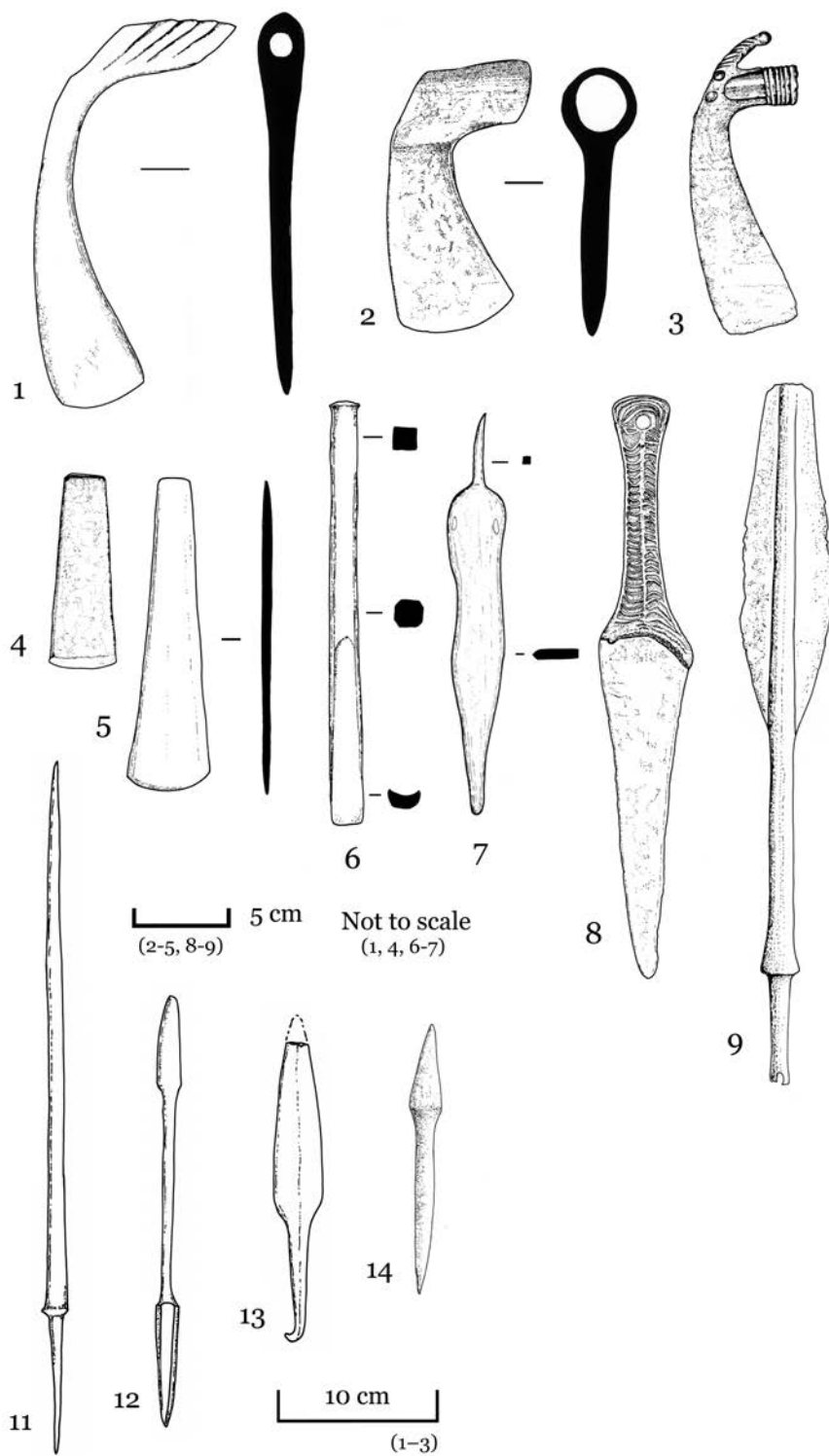


Figure 7.4. Late Early Bronze Age – Middle Bronze Age weapons and tools: **(1)** Koreti; **(2, 4)** Martkopi Barrow 5; **(3, 5)** Sachkhere; **(6)** Bedeni Barrow 5; **(7)** Eliste; **(8, 9, 11)** Tsartsi; **(12)** Kulbakebi; **(13)** Tbilisi; **(14)** Martkopi Barrow 4 (after Sagona 2004).

led to the rather exaggerated examples of the later Bronze Age. At Sachkhere the axes have a tubular shaft for the handle and a sweeping blade broadening towards the end (Figure 7.4(1, 3)). Flat axes, spearheads with a prominent midrib, and square-sectioned bayonet-like weapons are also part of the assemblage (Figure 7.4(11)).

Martkopi and Early Trialeti Barrows

What caused the demise of the Kura-Araxes complex and the rise of the barrow cultures is a moot point. ‘Cattle herding pastoralists’, according to Kohl, ‘who habitually utilized ponderous oxen-driven wagons, [and] gradually moved south from the western Eurasian steppes into Transcaucasia’, provide the answer.²⁹ As appealing as this crisp image is, we need to tread carefully. We do not have nearly enough secure radiocarbon dates from either side of the Caucasus range to substantiate this claim, nor, as we see, can we confidently say where wooden-wheeled vehicles were invented. Although the appearance of the Bronze Age barrow cultures is abrupt, a transitional period is evident in a number of places. Stepanakert Barrow 119 is one burial that reflects hybridity of this kind.³⁰ As we have seen, the majority of Kura-Araxes burials were individual, with some tombs, especially the stone built structures, showing multiple interments.³¹ The Stepanakert barrow was a collective tomb with a material assemblage that draws on both the Kura-Araxes and Martkopi traditions. The coexistence of late Kura-Araxes and ‘Martkopi’ elements have also been reported from Badaani and Tsikhiagora, discussed below.

Communities of the Middle Bronze Age I buried their dead beneath large stone mounds that were sometimes covered with a layer of earth. This layering may have held some meaning, given that a few mounds appear to have interleaved layers of soil and stone, usually a combination of pebbles and field rocks. The size of the mounds varied greatly, from as high as 13 m for Martkopi Barrow 4 to Magharo that is barely a rise (50 cm) on the horizon, and their dimensions most likely reflected social status. Most barrows are circular in plan, though a few are more elongated. Six barrows were excavated at Martkopi.³² Barrow 4 is a good example of a well-preserved burial, replete with grave goods. It had an aboveground wooden mortuary chamber with walls two logs thick, supporting a wooden roof that was concealed beneath a mound 100 m in diameter and 13 m high (Figure 7.5(2)).³³ The chamber was substantial, measuring 11 x 10 m along the exterior and enclosing an interior space of 8 x 6 m. It was also well built and sturdy, displaying skills in carpentry that were

²⁹ Kohl 2007: 121.

³⁰ Smith 2015: 133.

³¹ Poulmarc’h 2014a.

³² Dzhaparidze 1998.

³³ Dzhaparidze et al. 1980.

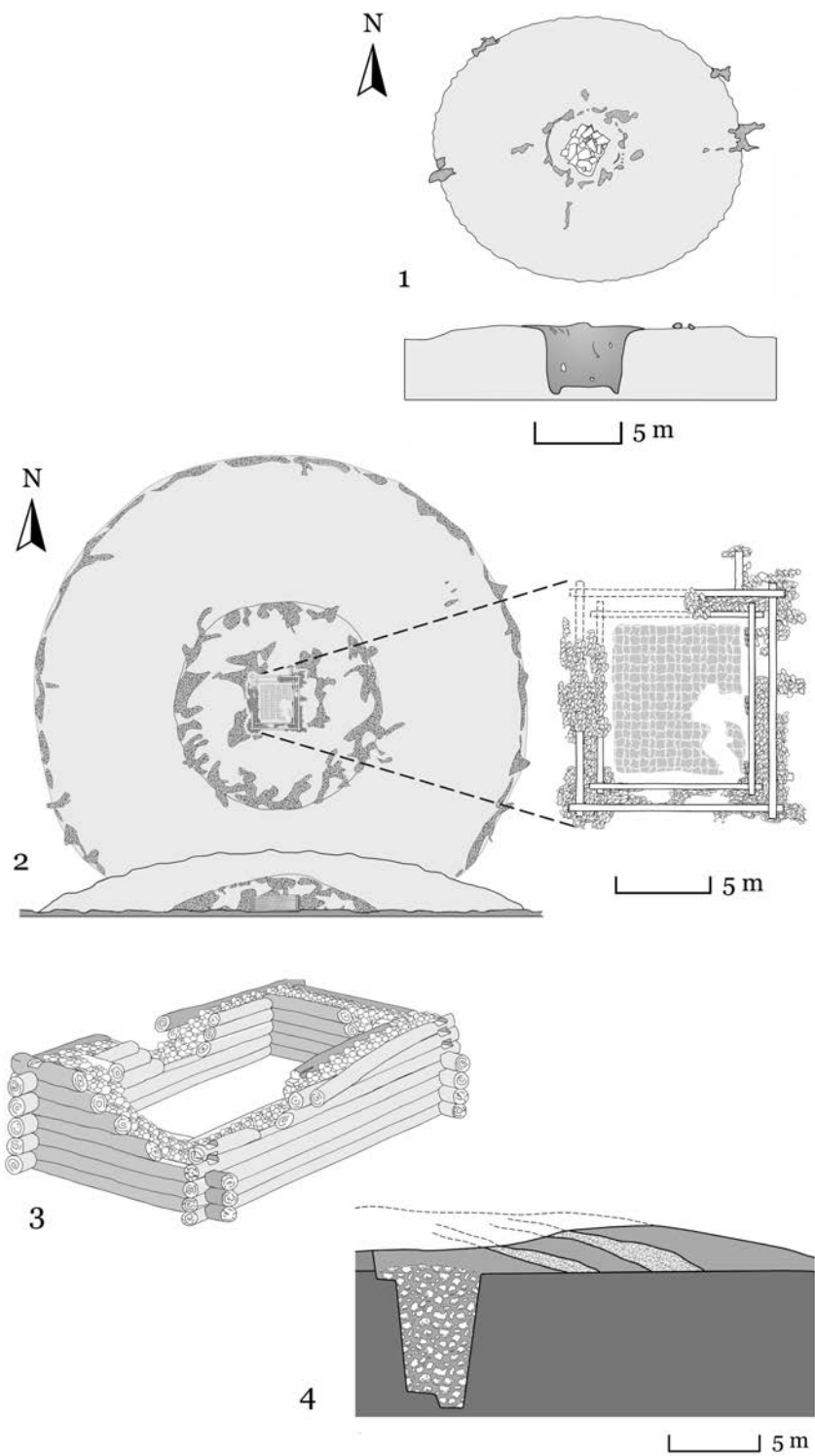


Figure 7.5. Barrow plans: **(1)** Martkopi Barrow 6; **(2)** Martkopi Barrow 4; **(3)** wooden mortuary chamber of the Magharo barrow; **(4)** cross-section of Trialeti Barrow 10 (nos. 1–3 after Dzhaparidze 1998; no. 4 after Gogadze 1972).

one of the distinguishing features of this period. Its walls rose 2 m above the ground and were interlocked; for added strength, the space between the two log walls was filled with stones. Comparable structures were found at Magharo (Figure 7.4(3)), and at Zeiani in the Samgori Valley, near Sagaredzho.³⁴ Rarely, tombs were furnished with steps, such as at Magharo.³⁵

Other barrows sealed deep shaft tombs or structures buried below ground level, such as Martkopi Barrow 6 (Figure 7.5(1)). Beneath the floor of Zeiani Barrow 2, excavators reported a pit with a ceramic container half filled with human ashes. The early barrows at Trialeti are comparable: spacious shaft tombs – up to 4 m in diameter and dug up to a depth of 7 m – were backfilled with stones and then covered with a tumulus of earth and stones (Figure 7.5(4)). Trialeti Barrow 46, however, was different. It had a funerary log cabin containing the remains of a child, sealed under a tumulus 50 m in diameter.³⁶

The most common item in the funerary assemblages is pottery. Vessels have a black polished exterior surface – never quite reaching the Bedeni lustre – and a smoothed pink interior, showing connections with the late Kura-Araxes and early Trialeti pottery. Martkopi forms also appear to develop out of these two horizons. There are large jars, and cups often have a single, broad, strap handle linking the rim to shoulder. In general, many of the vessels show a tripartite profile analogous to the shape of a pear – a long concave neck, a bulging girth, and a sharply tapering lower body, which ends in a narrow base that is often concave (Figure 7.6). The belly gradually became more angular, to the point where some vessels have a biconical appearance. Ornamentation is also a feature and comprises geometric incised designs, such as bands of nested zigzags, across the accentuated belly. The top of the shoulder is usually defined by a row of hatched triangles; the lower body is never decorated.

In Barrow 4 at Martkopi, grave goods surrounded the remains of three individuals who were laid on a flagstone-paved floor. Along the edge of the tomb stood black burnished pottery containers surrounding an assortment of items placed in the centre of the chamber: four axes with an obliquely cut shaft-hole and diagonal blade; three flat bronze axes that widen towards the blade, comparatively rare in this period but becoming more popular about a millennium later; a chisel, typically with a square head, cylindrical shank, and concave edge; and four flat leaf-shaped ‘blades’ – it is difficult to determine whether these are lance or dagger blades, or whether they served the same purpose as the later, more rounded, and enigmatic Bedeni ‘standards’. At the eastern end, a huge amount of mother-of-pearl plaques were found, along with perforated boars’ teeth used as pendants, and carnelian and faience beads of various shapes. The deceased were adorned with gold and silver necklaces of bobbin-shaped beads,

³⁴ Dzhaparidze 1983.

³⁵ Bertram’s (2003: 45–55) ‘Stufengraber’.

³⁶ Kuftin 1941: 101; Zhorzhikashvili and Gogadze 1974: 10.

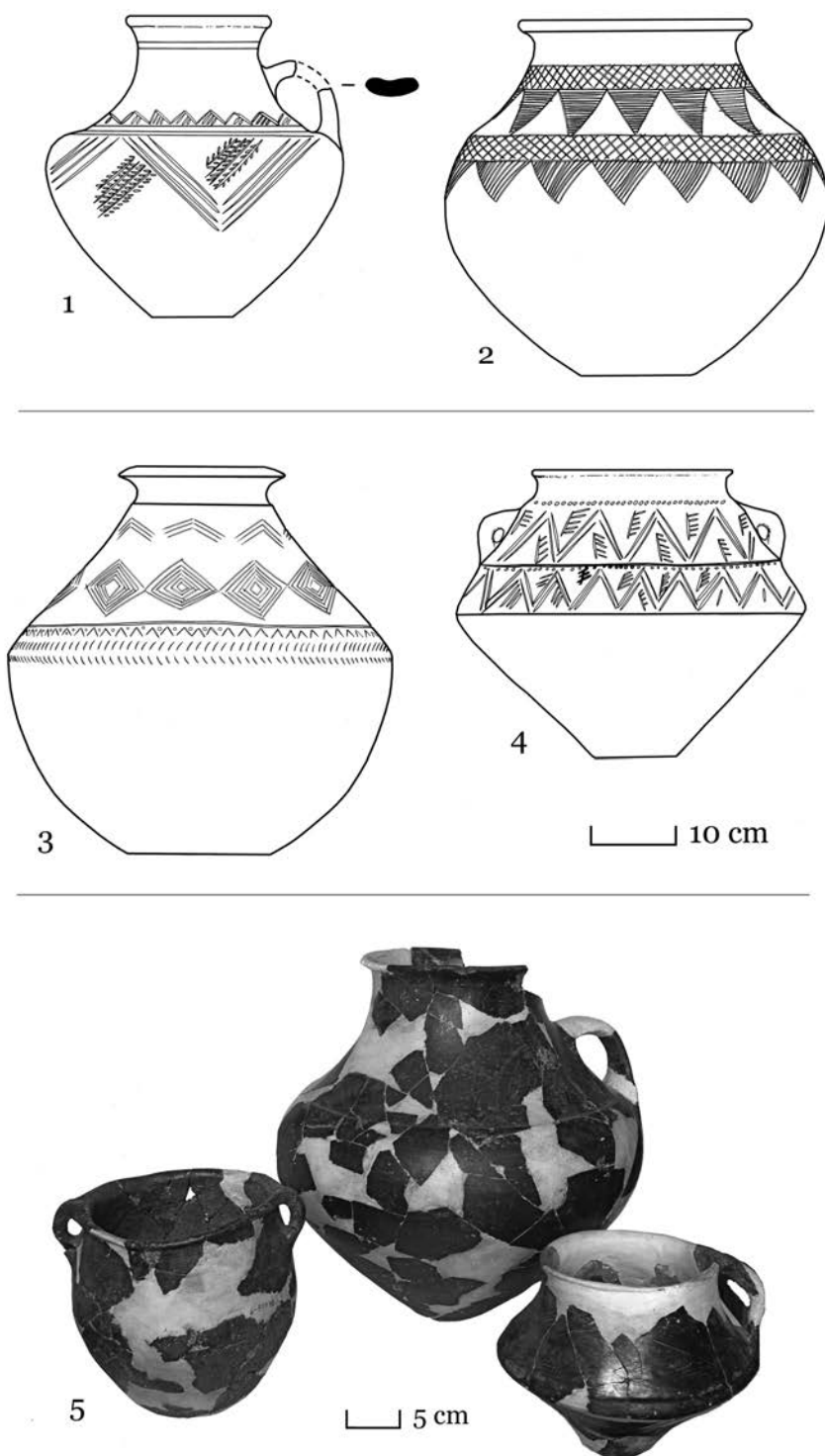


Figure 7.6. Early Trialeti and Martkopi pottery: **(1)** Dali Gora (after Dzghaparidze 1998); **(2)** Sos Höyük (after Sagona 2000); **(3)** Sos Höyük (after Sagona 2000); **(4)** Martkopi Barrow 2 (after Dzghaparidze 1998); **(5)** early Trialeti ceramics (photographs A. Sagona).

and gold lunate hair rings. Similar pieces were found across the six barrows at Martkopi (Figure 7.3(11–12)).

Here one should mention the exquisite gold necklace (Figure 7.3(14, 15)) from Ananauri (Kakheti) Barrow 2, a unique piece found buried in a small pit dug into the floor of the tomb.³⁷ At its centre is a massive gold plate in the shape of a double spiral decorated with an intricate open-work pattern. Three smaller double-spiral pendants twisted from gold wire, and a series of biconical, bobbin-shaped, and tubular beads make up the rest of the necklace. The necklace has no direct analogues, but the bobbin-shaped beads are comparable to those from Martkopi Barrow 4, as well as examples from the Early Dynastic IIIA period in the Royal Cemetery at Ur.³⁸

Not all barrows had numerous or lavish grave goods. At Samgori, for instance, the dead were buried with several ceramic containers, a small bronze dagger, a stone axe, and astragalus bones. In addition to items of precious metals, temporal pendants of animal teeth and tusks also make an appearance for the first time during this period.

Bedeni Barrows

The second and approximately coeval phase of the early barrow period is represented by burials situated in both the high country and the lowlands. The barrows are found in the Alazani Valley, on the Tsalka Plateau, and to the south around Marneuli.³⁹ Bedeni mounds also occur in western Azerbaijan and in Nagorno-Karabakh at Stepanakert. In terms of construction, these mounds are roughly comparable to those of the Martkopi period, though they show a little more variety. There are stone and earthen mounds, and barrows that combine both media in a layered effect. They often cluster in groups. Most Bedeni barrows measure no more than about 15 m in diameter and rise some 3 m above the ground. There are exceptions, of course, most notably Ananauri 3, which was built to a height of 12 m, and Tsnori, which was only 1 m less.

On the whole, the Bedeni communities placed their dead in a more diverse range of burial chambers than did their Martkopi neighbours. Large timber structures constructed in a deep rectangular or square grave pit were popular. The most elaborate examples come from the Bedeni Plateau, where large mounds concealed well-preserved, spacious chambers, whose walls comprised abutting logs positioned upright.⁴⁰ Aboveground mortuary architecture, built of either stone or wooden logs, was impressive, too, and often furnished with a corridor (*dromos*). Other tomb types include deep earthen shafts or shallow pits, and the occasional catacomb variety, hewn out of bedrock.

³⁷ Miron and Orthmann 1995: fig. 50, 227; Soltes 1999: fig. 13, 140–1.

³⁸ Abramishvili 2010: 169.

³⁹ Dzhaparidze 1975; 1994: 77.

⁴⁰ Gobedzhishvili 1980.

ANANAURI BARROW 3

The Bedeni period has received an important injection of information through the 2012 excavation of Ananauri Barrow 3, a large tumulus located in the Lagodekhi municipality of eastern Georgia and radiocarbon dated to 2400 BC.⁴¹ Spreading across 100 m, the tumulus rises 12 m above the valley floor of the Alazani River. Built with superimposed layers of yellow clay 2–3 m thick and sealed with a stone shell (50–100 cm) in which obsidian flakes were intentionally (and probably symbolically) embedded, its construction would have required an enormous amount of labour. At its centre, the burial chamber was covered with a matrix of dark grey clay and roofed with a wooden platform (25 x 15 m) built of oak logs (Figure 7.7). Wooden chips were spread across the platform to form a layer up to 20 cm thick, and the whole area was sprinkled with red ochre. Beneath the platform, a large burial pit (15 x 10 m) housed an oak mortuary chamber (L: 9 x W: 6.5 x H: 2.75 m), constructed with walls two layers thick separated with matting. The outer wall comprised logs of oak bonded like a log cabin in the corners, while the interior of the chamber was lined with hewn planks. The roof was supported by three pillars and seven horizontal beams.

Although the burial chamber had been plundered twice, after which the platform collapsed, enough grave goods survive to reflect the wealth it contained. The disarticulated remains of seven individuals lay amid the dismantled parts of two wagons that were flattened to the floor owing to the roof collapse. Upright planks of wood, probably lined with leather on the outside and held in place with wooden pegs, served as the walls of the wagon bodies. Skilled carpentry is also reflected the wheels, constructed from three planks of wood joined with wooden cleats. Metal rods with a broad disc head were used to secure the wheels to the axle.

Both wagons functioned as hearses. One of the dead was placed on the body of Wagon 1, whereas another lay on the floor beneath it. Wagon 2 had a similar arrangement: two individuals, an adult and a sub-adult, on the wagon, and another individual beneath it. Two deceased, again an adult and a sub-adult, were placed in the north-east part of the chamber. The grave goods included fragments of a wooden armchair, tripod wooden bowls, twenty-three gold jewellery items, beads of carnelian, black onyx and amber, ornamented pottery, flint and obsidian arrowheads, and textile (wool) and leather items. Of the twenty ceramic containers, two are noteworthy: one is a black polished jar with a relief pattern of spirals resembling a stylised face, similar to the vessel from Badaani, whereas the other is an unusual narrow-necked container built from a light and compact grey paste. The exceptional hermetic conditions

⁴¹ Makharadze and Murvanidze 2014a; lecture delivered at the Hermitage, Saint Petersburg, Makharadze 2015; Makharadze et al. 2016. See also Makharadze and Murvanidze 2014b.

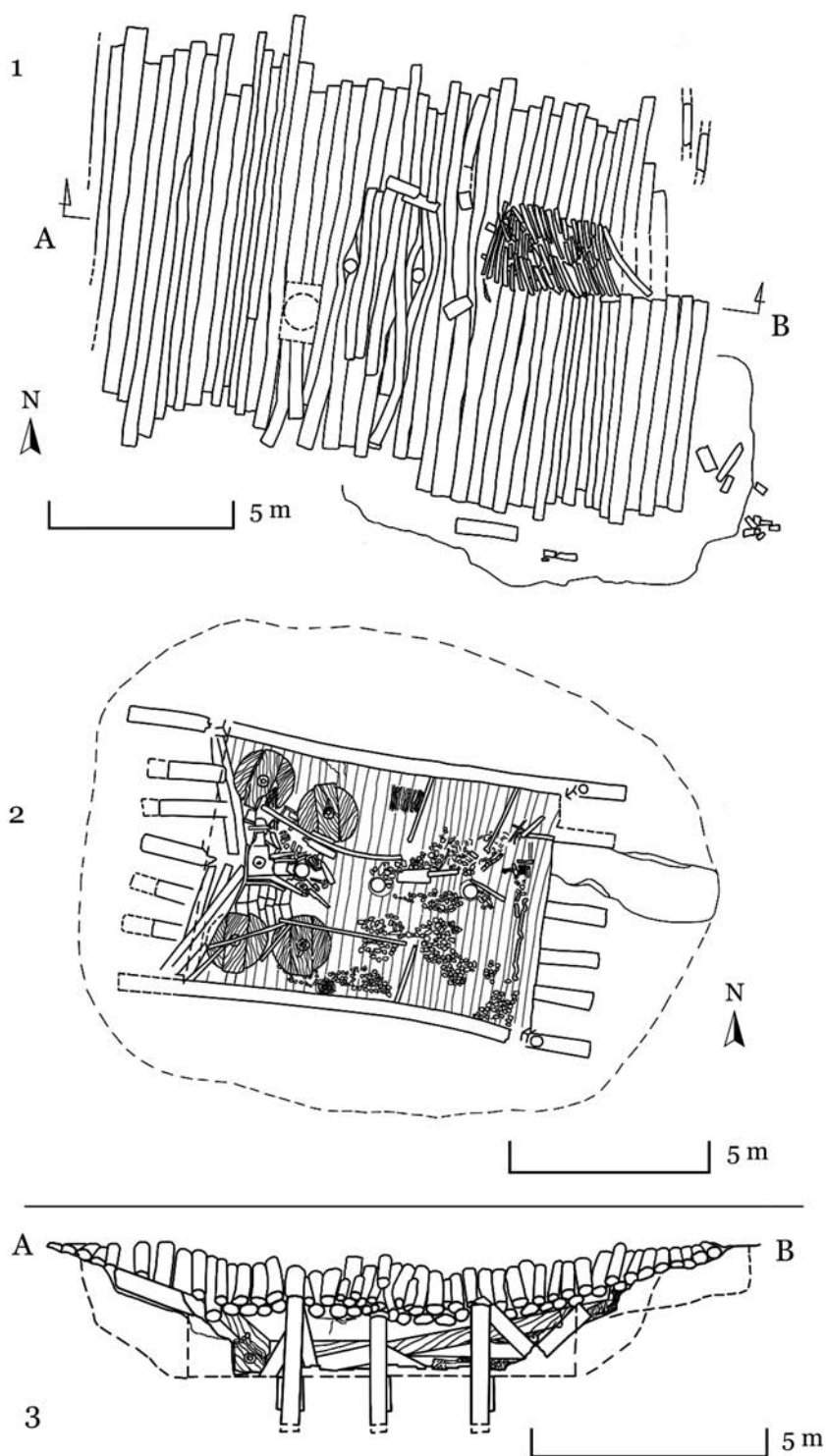


Figure 7.7. Ananauri Barrow 3 (after Makharadze and Murvanidze 2014a).

within the barrow also preserved baskets of berries coated in honey and quantities of chestnuts.

BEDENI BARROWS

Another well-preserved burial is Bedeni Barrow 5 – a virtually complete log funerary cabin with wooden floor and flat roof (Figure 7.8(1)). Inside the structure, a solid, four-wheeled wooden wagon acted as a hearse and held the remains of a deceased male, who was placed on a litter decorated with gold ornaments. Amongst the items buried with him was a gold double-spiral-headed pin that is a stylistic development from the older bronze pins of the Early Bronze Age (Figure 7.8(4)). Its head is flat and broad, and decorated with two rows of circles and a twist pattern on one side and a meander pattern on the other. Technically, the pin reflects a fairly complicated process, combining the techniques of casting, stamping, and engraving.

In secondary positions along the periphery of the tomb were a woman and a youth. This spatial arrangement, repeated in other burials, has led to suggestions that the society was patriarchal and that the woman and youth either committed suicide or were dispatched upon the death of the elder male.⁴² Similar explanations of human sacrifice have been offered for the male-female collective burials of the early Yamnaya culture, with the caveat that simultaneous death may have been caused by disease.⁴³ Unfortunately, we have no anthropological analysis of the skeletal remains to indicate trauma. If it could be shown that these instances represent retainer sacrifice or even suttee, they could be added to other well-known examples from the Near East and Europe.⁴⁴ While the grave goods of the woman and youth were modest, the principal deceased was lavished with items that included wooden furniture and utensils, fragments of flax and hemp, basketry, and woollen fabrics, felt rugs, fleeces of sacrificed animals, jewellery, finely knapped obsidian and flint arrowheads, and a wide range of pottery. Food items, including meat, wheat, walnut, and chestnuts were also placed in the tomb and some may have been consumed during the funerary rite.

Recent palynological research has shed light on the ‘invisible’ aspects of the Barrow 5 funerary rites.⁴⁵ A range of medicinal and melliferous plants, such as lime (*Tilia*) and *Plantago*, *Centaurea*, *Artemisia*, and *Achillea*, were probably tied and bundled in boxes and baskets (Figure 7.8(3)). While their placement in the tomb could simply have been ornamental, it is also possible that their purpose was folk phytotherapy, namely to provide a healthier afterlife. Honey

⁴² Kushnareva 1997: 92, following Dzhaparidze 1994: 77.

⁴³ Mallory 1990: 36.

⁴⁴ A. R. W. Green 1975; Day 1989; M. Green 1998; Frangipane 2001. According to Hughes (1991: 18–24), before human sacrifice is claimed, certain criteria should be met, including a hierarchy of provisions, violence in the secondary burials, and the simultaneity of the deaths.

⁴⁵ Kvavadze et al. 2015.

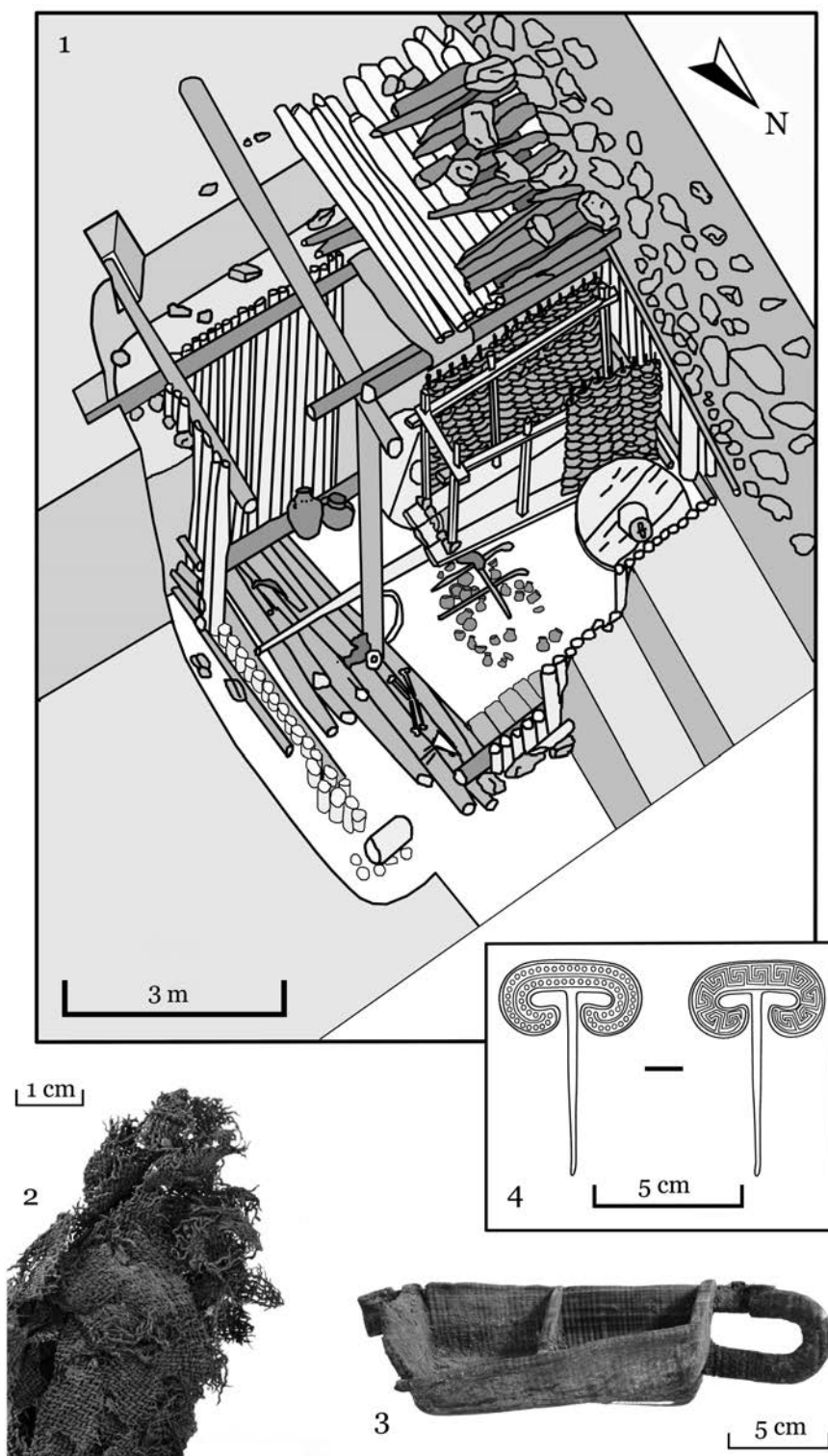


Figure 7.8. Bedeni Barrow 5 (1) Axionmetric view of Bedeni Barrow 5 (adapted by C. Sagona after Gobedzhishvili 1980); (2) textile fragments; (3) wooden box; (4) gold pin (nos. 2–3 photographs A. Sagona; no. 4 after Carminati 2014).

and beeswax were also used in the funerary rites. They were smeared on the bodies, possibly for their therapeutic qualities, and substantial residue was also found embedded in textiles (Figure 7.8(2)), possibly to waterproof them or to preserve them. In any event, such copious quantities of honey and beeswax point to developed beekeeping.

A similar scene greeted the excavators of Bedeni Barrow 10, where a series of interconnecting chambers built of upright logs housed goods placed on a bedding of thick felt mats and animal furs rolled out on an earthen floor. A male again occupied the primary position in the tomb, with a female positioned along the periphery. A well-preserved wagon, with tripartite wheels and lynch pins still in place, stood upright within a chamber. Inter-regional contact and dating possibilities are afforded by the bronze, crescent-shaped axe from Bedeni Barrow 12 (Figure 7.9(6)), which has been compared to similar examples from the Near East dating to 2500–2000 BC.⁴⁶ This has implications for the dating of the Karashamb Barrow (Armenia), where a silver version of the axe was found in association with an exquisite goblet (see below).

In terms of richness, the two barrows from Tsnori, in the Alazani Valley of Kakhetia, are in the same league as the Bedeni burials. The largest cairn at Tsnori (no. 1) had an exterior protected with an armour-like covering of stones.⁴⁷ A stone structure on top of the mound was, according to the excavators, a shrine built as part of the funerary rites, though whether it is contemporary to the cairn is questionable. A massive, round, stone embankment, 2 m thick and 80 m in diameter, was built beneath the barrow. To its east was a large grave chamber, 3 m deep, which contained a substantial wooden bier surrounded by a wooden palisade. The pit was sealed with a double layer of logs, coated with clay and subsequently covered with a rug. Although partly robbed, the remains point to a long and protracted funerary ritual. On the bed, in a contracted position, lay a male, the principal burial, who was furnished with gold items, parts of a four-wheeled wagon, a bronze dagger, stone and bone tools, and ceramic vessels. Around him were three other skeletons, without the wealth.

OTHER BEDENI BARROWS

The smaller barrow at Tsnori had a larger pit (10 x 10 x 2.5 m) roofed with two layers of logs supported by nine uprights. Again this was a case of a paired burial (male–female) in which the male, aged about 40, was primary, and the female (about 30 years old) an interment on the periphery. Provisions included the well-known small lion figurine cast in gold (Figure 7.3(13)), a unique piece, only 5.2 cm in length, cast around a hollow core filled with a white paste. The lion's mane has stylised, in-relief ornamentation that imitates granulation and filigree and has been compared in technique to true granulation, found at

⁴⁶ Abramishvili 2010: 171–2.

⁴⁷ Dedabrishvili 1979: 19–25.

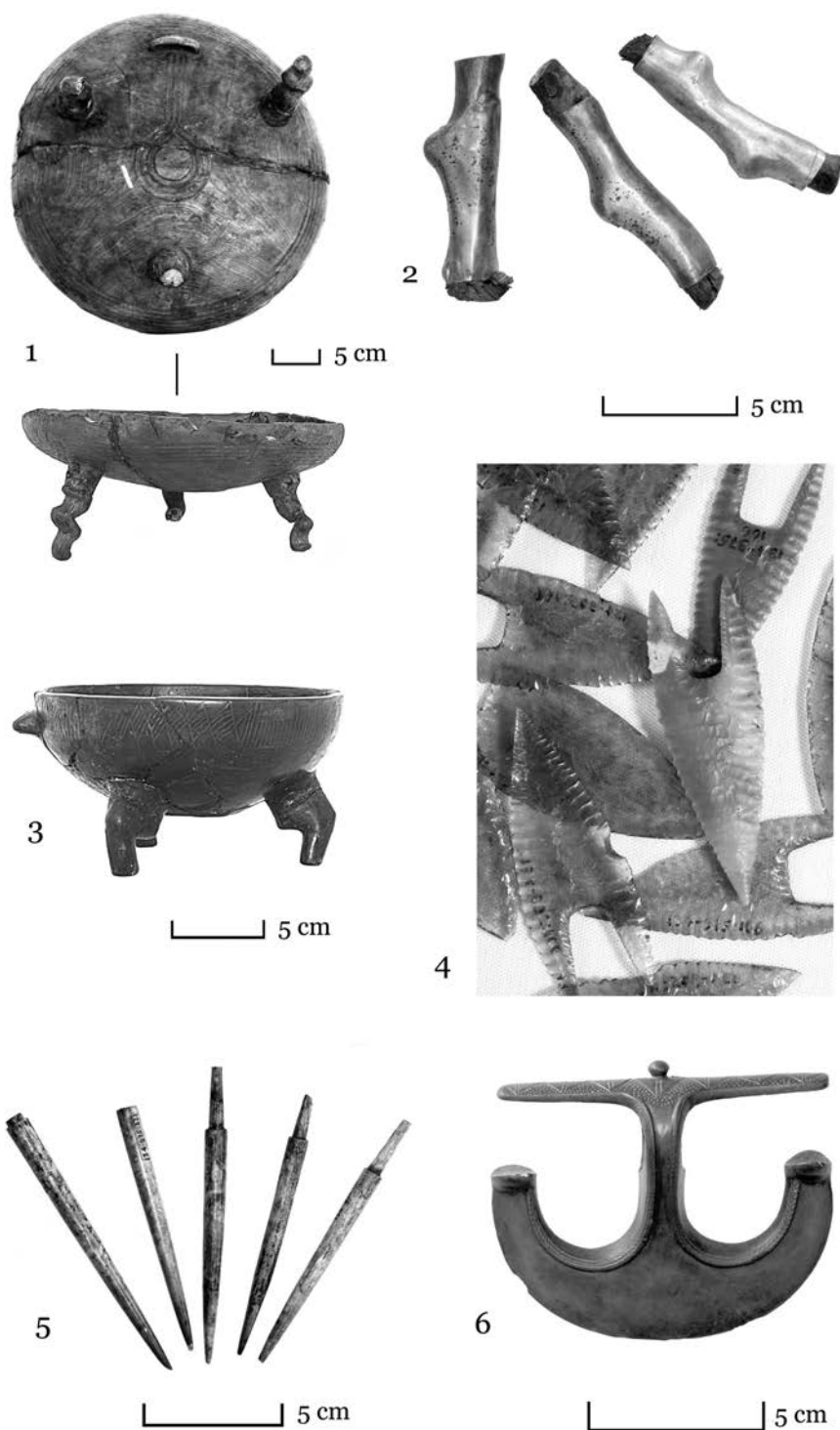


Figure 7.9. Bedeni artefacts: (1–5) Bedeni Barrow 5, (1, 3) wooden and ceramic tripod bowls, (2) three grape vine canes wrapped in silver plate, (4) stone projectile points; (5) bone points; (6) Bedeni Barrow 12, bronze crescent-shaped axe (photographs A. Sagona).

the Royal Graves at Ur.⁴⁸ Underneath the paws are tiny holes that originally fastened the figurine to a support, also suggested by the long tail that extends below the paws so that the figurine cannot stand on all four feet. Other items included a leather shield, obsidian arrowheads, 40 ceramic vessels, and 465 astragalus bones of sheep.

Not all the Bedeni barrows were monumental and lavish in their inventory. The barrow at Abanoskhevi in Shida Kartli was roofed in wood and paved with stones, and had thirty-eight gold beads amongst other gifts.⁴⁹ But those tumuli located in the Kvemo Kartli lowlands, such as those at Kramebi (near Gurdzhaani), Gadachrili-Gora, and at Shulaveri were modest by comparison. Outliers are also found at Ilto, where they have been associated with the lower settlement, and variants have been reported in Dagestan and the Karabakh region.⁵⁰ These were much smaller tombs (ca. 30 m in diameter and 1–1.5 m high), distinguished by a square shaft covered with a mound of earth and stone. In two cases, the deceased were placed on their left sides in a flexed position. They were accompanied by black burnished ceramic vessels, copper dagger blades, four-sided needles, hollow-based obsidian, and flint projectile points, grooved chisels, flat axes, and socketed axes with a flanged blade.

Bedeni Settlements

BERIKLDEEBI VILLAGE

Berikldeebi Period III affords a rare glimpse of a Bedeni settlement.⁵¹ The village spread across the entire site (ca. 110 x 80 m) and was distinguished by an ashy and pebble matrix, never deeper than about 1 m. Dzhavakhishvili distinguished two levels: a lower one with seven building phases, and the uppermost one with numerous pits (Figure 7.10). A bewildering array of more than 200 pits, an astonishing number by any reckoning, punctuates most of the extent of the site. Many of these pits cut through the two earlier periods creating a palimpsest of re-occupation that was taxing to disentangle. Remains of a stone perimeter wall, about 15 m in length, suggest there was a need for security. Architectural evidence is fragmentary – patches of clay-plastered and beaten earthen floors, pebble foundations, pieces of clay with post-and-wattle impressions – but enough to delineate fourteen houses. Owing to the quantity of ashy material, Dzhavakhishvili made the perceptive observation that the

⁴⁸ Abramishvili 2010: 169.

⁴⁹ Gogadze 1972; Dzhaparidze 1975; Gogochuri 2008: 39–41.

⁵⁰ Ilto (Dedabrishvili 1969: 60), Dagestan (Gadzhiev 1983: fig. 1.11), and Karabakh (Kushnareva 1954: fig. 1.1). See also Dzhaparidze 1994: 80.

⁵¹ I would like to thank Mindia Jalabadze for giving me access to the Berikldeebi archives and material. Kipiani 1997; Dshawachischwili 1998; Jalabadze 2014.

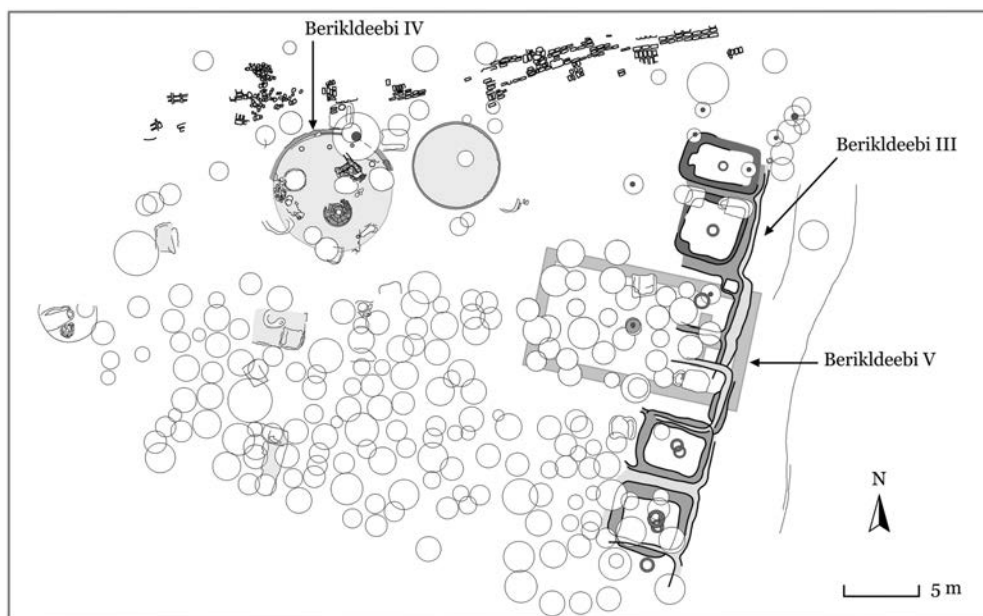


Figure 7.10. Berikldeebi. Plan of site showing key cultural levels III–V and their features (drawn by M. Hutson and C. Sagona, original plan courtesy M. Jalabadze).

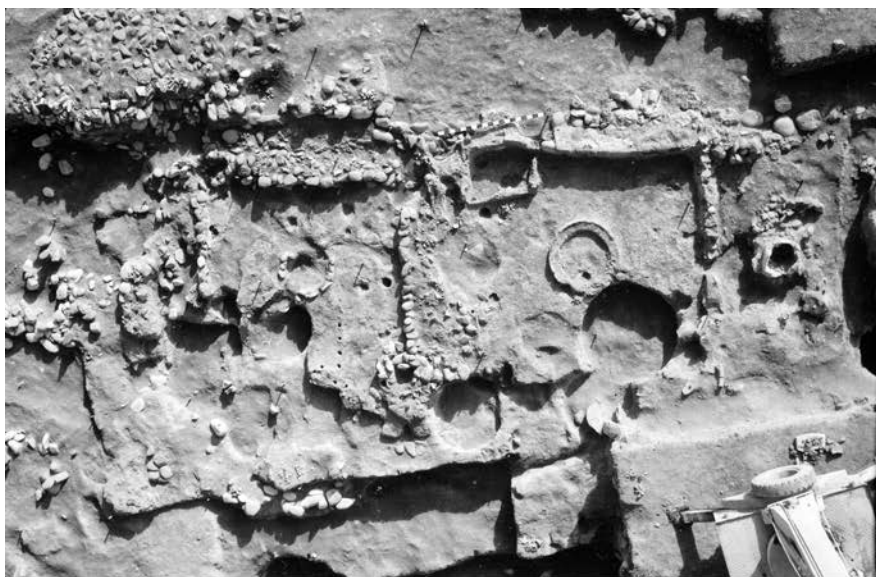
Bedeni houses were possibly burnt as part of ritual process, a practice that has been postulated for other cultural horizons elsewhere.⁵²

The basic plan of the earliest Bedeni houses (Phase 1) is clear and recalls that of the Kura-Araxes: a rectangular main room with a central fixed, baked-clay hearth, and an attached anteroom (Figures 7.10 and 7.11). Hearths, too, have familiar features. They can be up to 1.75 m in diameter (Building 14) and bear decoration. Small bowl-like projections attached to the hearth of Building 12 are a novel feature. Later houses can be almost square with slightly rounded corners, and usually have an anteroom.

Remains of a large, multi-roomed rectangular structure (18 x 6 m) were found in Level 3. Facing west and built directly onto the ground, its rear almost touched the perimeter wall. Although structurally unified, these four rooms in a row were essentially independent buildings – Buildings 2, 3, 4, and 5 – that shared a back and a party wall. Supported by a framework of timber posts, the large structure had a common roof, shared by each room, which had sturdy posts set in the corners for reinforcement.

Level 5 contained at least two buildings (nos. 7 and 8), which also formed a unified structure, having common back and side walls. Both are similar in plan, approximating a square (5 x 5 m), and each had a bench (25 cm high and 50 cm wide) that ran along three sides of the wall, a feature redolent of the

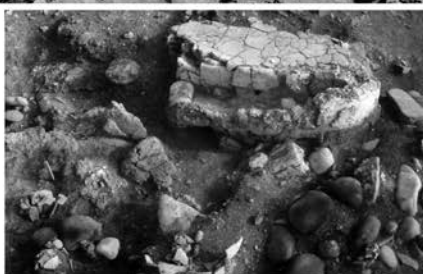
⁵² Stevanović 1997; Sagona and Zimansky 2009: 88.



1



2



3



4



5

Figure 7.II. Berikldeebi: **(1)** Bedeni houses 3, 4 and 5; **(2)** Bedeni House 7; **(3)** Platform 10; **(4)** Bedeni pits dug into Level V ‘temple’; **(5)** hearth in Building 8; (nos. 1–3, 5, courtesy M. Jalabadze; no. 4 photograph A. Sagona).

Kura-Araxes houses. These benches, however, were constructed of wood and then clay plastered. Pottery vessels were placed along the bench and found in situ around the fixed hearth, which was circular (150 cm in diameter). One large, upside-down jar stood in the hearth, with four smaller vessels and four pebbles placed beside it.⁵³ As we have seen, this practice of upending a vessel on a hearth was not uncommon in the Kura-Araxes period. The hearth in Building 8 was sunk slightly into the floor and built in situ. Its projections – stylised anthropomorphic figures sitting with legs ‘embracing’ a central fire – recall the horseshoe-shaped stands characteristic of the Kura-Araxes culture.

A new trait that appears at the end of Period III at Berikldeebi is the platform, which DzHAVAKISHVILI interpreted as a focal point for worship. While traces of twenty-one such platforms were discovered, only three examples were sufficiently well preserved to provide a reasonable understanding of their character. Unlike the buildings, mostly built in one general area, these platforms were scattered all around the site. Moreover, although each platform had signs of reuse, reflected by renewed layers of clay plaster, they may not have functioned simultaneously. What is clear is that the platforms were renewed. The intriguing question is this: Why did the platforms appear towards the end of Period III and why did they replace the hearth as focal point?⁵⁴

In construction, the platforms were fairly standard. Platform 18, for instance, measured 1.5 m (length) x 1 m (width) x 0.35 m (height), and was positioned on a beaten clay floor. It was made of pebbles and clay mortar, as well as fragments of Bedeni pottery, and covered with slabs of clay baked hard. Features included horn-like projections and an ash pit. Scattered around the platform were a horseshoe-shaped hearth and pottery vessels, with one containing carbonised wheat.

BERIKLDEEBI PITS

There is no clear distribution pattern for the numerous pits of Period III. Some are located beneath the floors of buildings, others were dug in the open, and yet others cut buildings and features. They were also dug very close to one another, or even cut into earlier pits, and are mostly of the same type (bell-shaped), differing only in diameter size (between 40 and 300 cm). Several well-preserved pits, complete with filling, suggest they were sealed with a thin clay layer, on the top of which was placed a small stone-pile, suggesting intentionality. Generally speaking, the pits were full of ashen earth, which mostly contained a limited assortment of material: fragments of ceramics, clay stands, broken cattle bones, pebbles, obsidian tools and their debitage, and, occasionally, fragments of building daub; millstones, pestles, zoomorphic clay figures, and axe moulds occurred sporadically. While this material may look as if it

⁵³ This practice of placing a pottery container upside down over the ash pit in the middle of the fixed hearth is found elsewhere, including at Sos Höyük and at Chobareti.

⁵⁴ Sagona 1998.

was thrown in haphazardly, a deliberate depositional sequence is often detectable, with specific items alternating with layers of ash. At times, this division is absolutely clear.

It is reasonable to suggest, then, that pit digging and filling was part of Bedeni ritual behaviour, and not simply meant to dispose of rubbish – material that is discarded because it has little use, cannot be recycled, or has the potential to be a hazard. There are two basic approaches to the study of refuse and pits. One conforms to a functionalist perspective and views it as part of discard behaviour – pits are the repositories of refuse.⁵⁵ Another, more recent, approach maintains that certain objects, once they leave the household domain, may still carry meaning for the living community. These objects do not conform to our Western notions of ‘rubbish’ (unwanted waste), but are disposed of in a structured and purposeful manner.⁵⁶ Essentially, this approach moves away from modern perceptions of rubbish as a material category that is totally separated from the social processes of the living. It also calls into question the distinction that is often made by archaeologists between ‘secular’ and ‘sacred’, and ‘practical’ and ‘ritual’, arguing that in certain societies these distinctions are meaningless.⁵⁷

OTHER BEDENI VILLAGES

Further evidence of village life is afforded by Tsikhiagora Level A, which lies above the Kura-Araxes deposit (Level B), but is separated from it by a thin sterile layer.⁵⁸ Both levels belong to the lowest deposit (Period I). Tsikhiagora is also pitted. Thirteen bell-shaped pits show clear and intentional layering of ash and cultural debris, like the pits at Berikldeebi. Up to 70 per cent of the pottery fragments found in the pits belong to the Kura-Araxes tradition, but the rest clearly belong to the Bedeni period (see following discussion). The Kura-Araxes material is distinguished by elaborately incised and applied designs of tendrils and geometric motifs typical of the late period, whereas the Bedeni fragments are thin-walled, highly black burnished and ornamented with comb-stamped motifs and occasional fluting.

Badaani has a novel layout and features. Two of its sides were flanked by ditches, which according to the excavator, Guram Mirtskhulava, were defensive in function, protecting those areas that did not overlook deep gorges.⁵⁹ One ditch was large, measuring 4 m across and about 3.8 m deep, whereas the other was smaller (2 m wide and 1 m deep) and may also have been used for irrigation. Badaani was a wattle-and-daub village. Five rectangular buildings,

⁵⁵ See, for example, the seminal processualist studies by Schiffer (1987).

⁵⁶ Chapman 2000b; Martin and Russell 2000; see also Nekhrizov and Tzvetkova 2012 for a south-east European example.

⁵⁷ Brück 1999.

⁵⁸ Makharadze 1994.

⁵⁹ Mirtskhulava 2011.

originally with pitched roofs, were uncovered and each had been destroyed by fire. Buildings 1–3 have two hearths each, one of stone and the other of clay. A circular clay floor, situated in the open, likewise has evidence of burning. But the most conspicuous feature was a rectangular terracotta pan supported on stones positioned in a corner of the settlement, which appears to have been an outdoor cooking area. Like the other sites, Badaani has pits – ten of them, with an interleaving of ash and debris, individually sealed with a small heap of stones. Small miniature clay vessels found only in the pits strengthen the idea of intentionality.

The renewed investigations at Natsargora in the Khashuri district have also helped in clarifying the relationship between the late Kura-Araxes and the Bedeni periods.⁶⁰ Although the architectural evidence is fragmentary, clarification of the stratigraphy and the sequence of pottery are telling. It appears that the Kura-Araxes settlement was badly disturbed by the later Bedeni pits, which caused the mixing of material. Pits dug during the Late Bronze Age caused additional disturbance. With the delineation of pits, the conclusion drawn from the early excavations – namely that Kura-Araxes and Bedeni material co-existed – has been replaced with a view that occupation at Natsargora followed the sequence Kura-Araxes, Martkopi, and Bedeni. The co-existence of Kura-Araxes and Bedeni features, according to Makharadze, can also be seen at a number of other sites, including Ilto (in Kakheti), complexes II and III at the Beshtasheni fortress, Barrow 12 at Trialeti, and Barrows N5 and N9 at Shulaveri.⁶¹ He also maintains that the Bedeni interlude comprised two developmental stages: the first saw the association of both fine ceramics and roughly made vessels in settlements, while in the second phase, when Kura-Araxes elements disappeared, fine Bedeni pottery was restricted to barrow burials and roughly fashioned containers manufactured for use in settlements.

Crafts and Technology

CERAMICS

There are two types of Bedeni pottery – fine wares and coarse wares. Burial pottery generally has a fine, compact paste and is very well manufactured. Containers are thin-walled and highly burnished to an almost mirror finish. Their surfaces often bear traces of a silvery coating that can rub off if not handled carefully. This appears to be graphite or haematite that was crushed to a powder and applied to the surface prior to burnishing, when the clay was leather hard. Cups and pitchers were popular and come in a variety of forms, such as a cylindrical and two-handled cup, a one-handled pitcher with a rounded belly

⁶⁰ Rova et al. 2010; 2014; Puturidze and Rova 2012a.

⁶¹ Makharadze et al. 2016: 16.

and straight neck, and those with a low set conical girth (Figures 7.12–7.13). Containers are often decorated with an empanelled, finely incised geometric design. A pear-shaped vessel with a tall, cylindrical neck is decorated with flat, horizontal fluting at the shoulder. Quite novel is the tripod bowl, occasionally with bent legs and a perforated horizontal lug (Figures 7.10(3) and 7.12(7, 9)). Although known in the south Caucasus, the home of this type is the northern Caucasus, as their numbers at Bamut indicate. The sense of decorativeness appealed to Bedeni potters. Relief knobs, fluting, and fine incisions were executed with precision, often empanelled, and rarely mixed. Some vessels had discrete ornamentation, whereas others had all over patterns (Figure 7.13(3–4)). Overall, the impression one gets is of a highly developed potting tradition that was over time inspired by new advances in metalworking, for many of the vessels have a metallic look about them.

Bedeni coarse wares, on the other hand, shared technological and other attributes with Kura-Araxes. Found mostly in settlements, the coarse wares have thicker walls than their fine counterparts, but not as thick as Kura-Araxes. Because the firing does not display the controlled atmosphere required to produce the fine wares, vessels are often mottled red-brown and black in colour. Forms are limited and not as adventurous as the angular fine containers (Figures 7.12(6) and 7.13(1–2)).

WOODWORKING

Attention should also be drawn to the high level of woodworking, exquisitely represented by the tripod tray carved from a single piece of wood (Figure 7.9(1)). Its figured, bent legs are mortised into holes, and a perforated lug handle attached to the rim enabled it to be hung on a wall so that the grooved circular ornamentation on the underside could be admired. Taken together with the skilfully crafted and assembled wooden wagons and tools such as grooved chisels and flat axes placed in the barrows, we can infer that skill in woodworking and carpentry was much valued.

FLAKED STONE

Stone items also display a level of sophistication. In Figure 7.9(4) we see typical Bedeni projectile points. Their sides are convex and exhibit careful pressure flaking on both surfaces, squamous in appearance, and along the blade edge. Thin in cross-section, the broadest area is near the midsection or towards the base. A Bedeni point is characterised by a distinctly hollowed base, which is steeply flaked to dull the edges for hafting on wood or bone. This new projectile design, different to the tanged and barbed arrowheads of the Kura-Araxes, is seen as a more effective weapon with greater penetrating power.⁶² Bone and antler points are also typical (Figure 7.9(5)).

⁶² Smith 2015: 142–4.

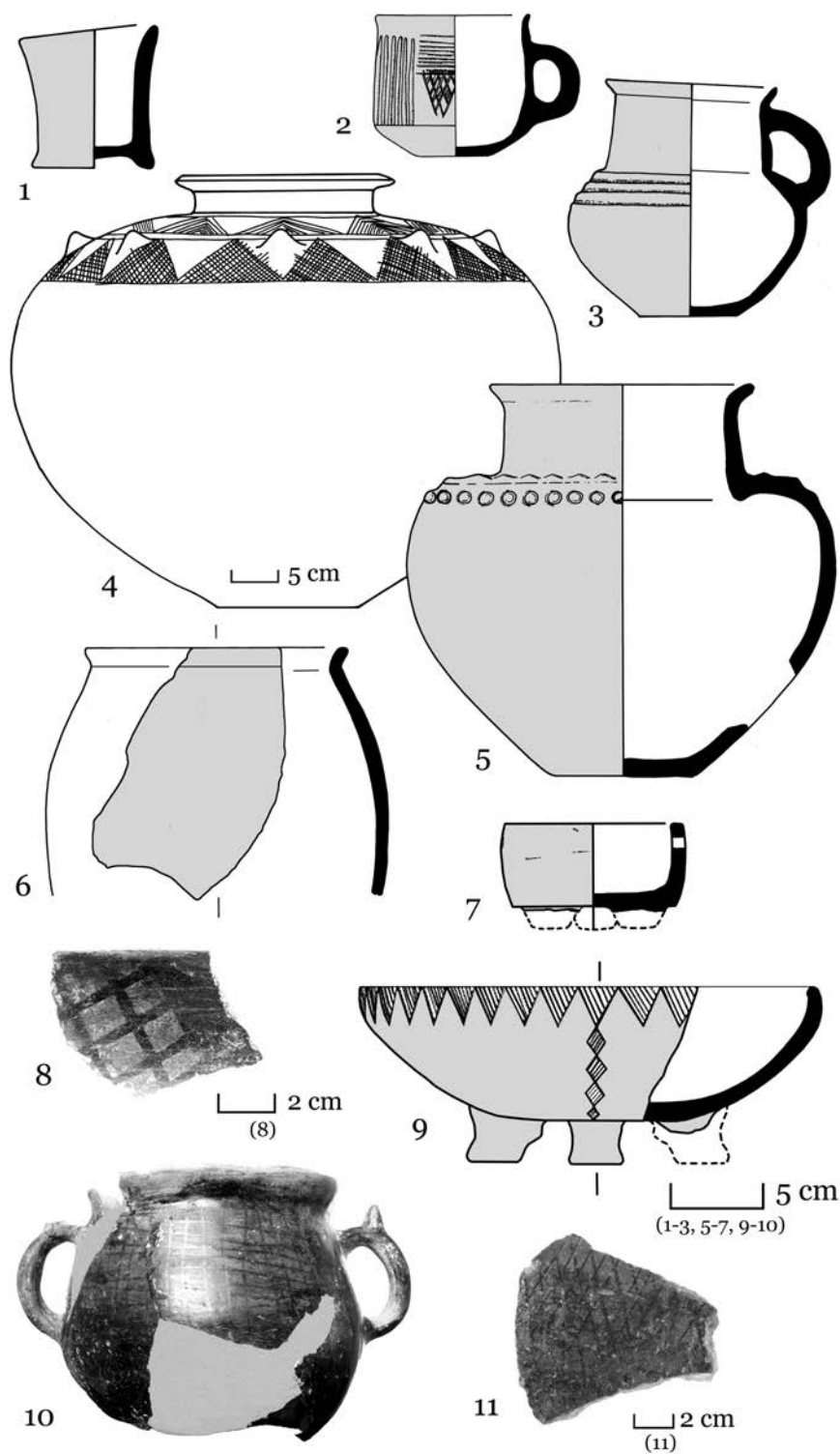


Figure 7.12. Bedeni pottery: (1, 6, 8, 11) Sos Höyük (after Sagona 2000); (2-3, 5) Bedeni Barrow 5 (after Gobejishvili 1980); (4) Shengavit (after Sardarian 1967); (10) Berikldeebi (adapted by C. Sagona, photographs A. Sagona).

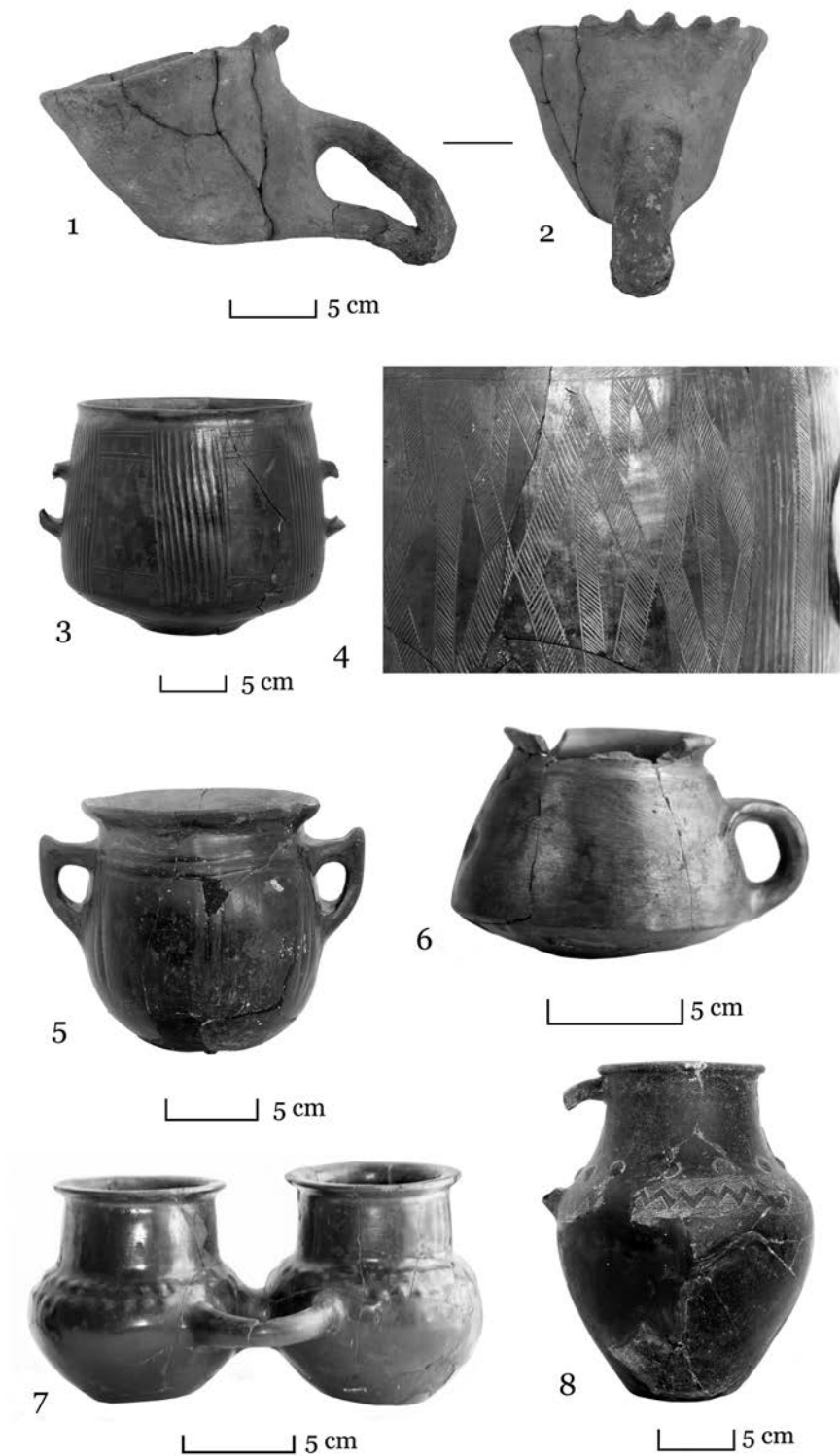


Figure 7.13. Bedeni pottery: (1–5) Berikldeebi; (6–8) Bedeni (photographs A. Sagona).

Sacred Spaces

At Zhinvali, in the Dusheti region, an artificial terrace cut into a steep slope overlooking the Aragvi River provides us with a tantalising glimpse of a ‘sacred space’, or sanctuary.⁶³ Although badly eroded, it is possible to discern its basic features; namely, a narrow area about 20 x 2.5 m that ran along the slope, reinforced along its front and back edges with a row of stones. On the terrace was a horseshoe-shaped platform constructed of clay and paved with flat stones on the top; a low border of clay defined its edges. Prominently displayed on top of the platform was a large, 60-cm-high clay sculpture of a stylised face with a relief pattern, comprising a pair of large spiral designs (eyes), an ‘omega’ motif above the now broken nose, and a series of curved lines to represent the mouth (Figure 7.14(1, 2, 4)). The stylised face design is a well-known Kura-Araxes motif, and it is a prominent feature on the large jars from Ananauri Barrow 3 and at Badaani (Figure 7.14(8)).⁶⁴

Pottery and a single radiocarbon reading that has provided a median date of 2130 cal BC to 68.2 per cent probability places the sanctuary in the Bedeni period.⁶⁵ Ceramics are for the most part wide-mouthed pots, often with a pair of loop or ledge handles set at the neck (Figure 7.14(3, 5–7)). Certain decorative elements reflect the transition between the Kura-Araxes and Bedeni periods: a dimple on the top of a loop handle and incised bands of hatched triangles recalled former tastes, whereas the triangles pendant to the shoulder were in line with current fashions. Oblique fingernail impressions across the shoulder of coarse ware, never found within Bedeni burial assemblages, signal household wares, similar to those recovered at settlement sites such Berikldeebi. In fact, the Zhinvali ceramics are no match for the funerary gifts in terms of quality of manufacture. Obsidian arrowheads with a concave base confirm the Bedeni attribution, whereas flint, sickle blades, and bronze awls suggest that whatever activities were performed, they were most likely associated with day-to-day tasks. Six pits of a later date, cut into the terrace, are filled with a mixture of Trialeti pottery fragments and animal bones.

The Economic Subsistence

In the absence of any rigorous scientific studies of animal and plant remains, and with only fleeting glimpses of village settlements, it has been assumed that the communities who built the third millennium barrows were primarily pastoralists.⁶⁶ Builders of burial monuments, embracing a certain degree of mobility in their lifestyle, who roamed the plains and plateaus of the central south

⁶³ Gogochuri 2008.

⁶⁴ Sagona 1984.

⁶⁵ (TB-289) 3670 ± 70 BP.

⁶⁶ Kushnareva 1997: 230.

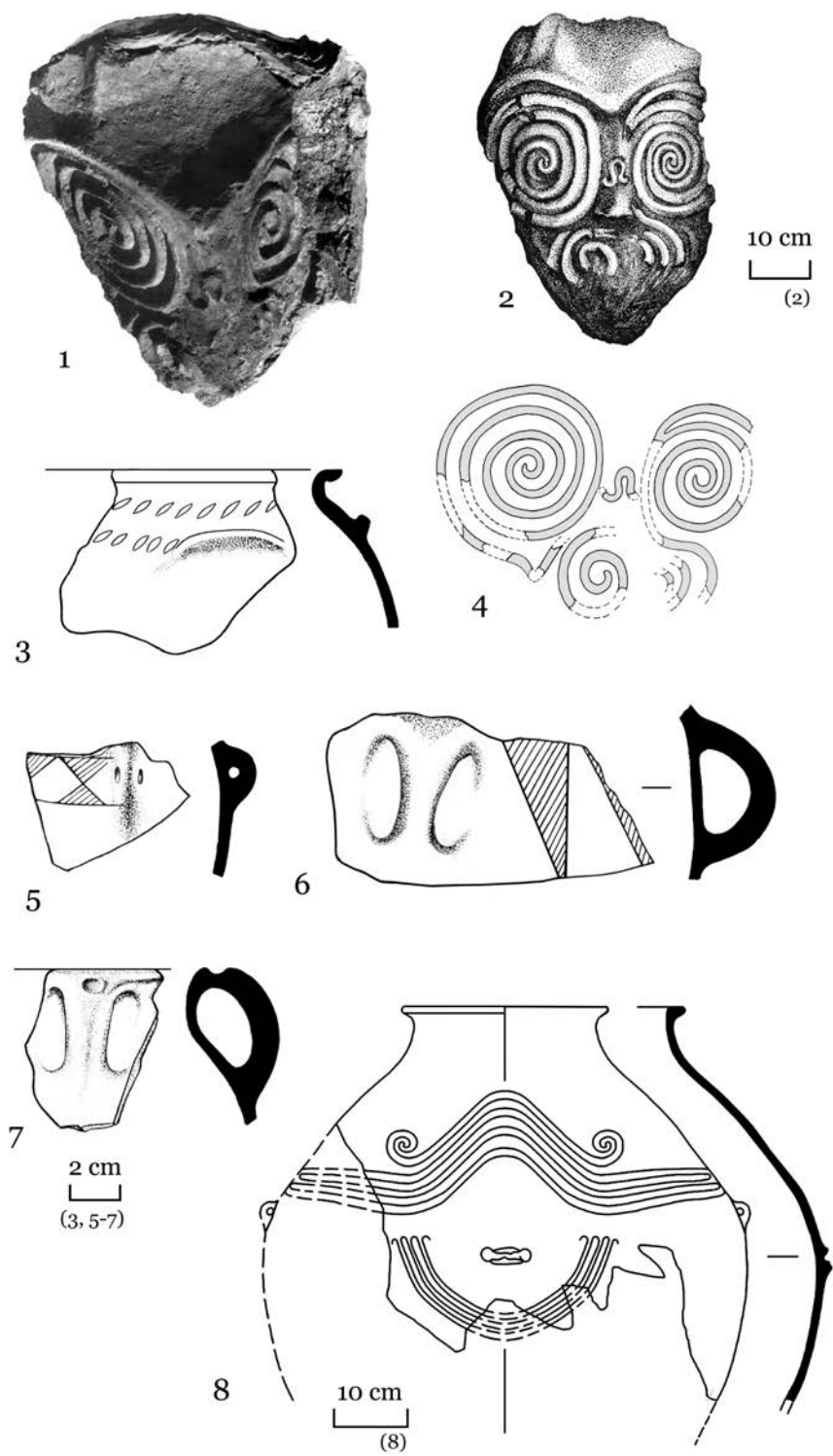


Figure 7.14. (1–2, 4) Zhinvali Sanctuary; (3, 5–7) pottery from Zhinvali sanctuary (after Gogochuri 2008); (8) pottery from Ananauri Barrow 3 (after Makharadze and Murvanidze 2014a).

Caucasus with their herds is an enduring picture. We are now starting to realise that this picture is only partly true. There is no question that the emphasis on sedentary village life that was so much part of the previous Kura-Araxes complex vanished, but it is also true that the economies of the Martkopi and Bedeni periods are far more diversified than we once imagined.

For purposes of comparison, the Kura-Araxes would be described as a minimal risk economy – a mixed agro-pastoral economy based primarily on the husbandry of sheep/goats and some cattle (depending on the site and region) and the cultivation of cereal agriculture, especially hexaploid free threshing wheat and two-row hulled barley.⁶⁷ Other products were limited, or possibly are as yet undetected. The Martkopi and Bedeni periods, on the other hand, show a much more adventurous approach to maintaining an economy, with flexibility in resource management.

Around 2400–2300 BC, the Bedeni Plateau was covered with forests of thermophilic deciduous species such as lime, chestnut, hornbeam, oak, and zelkova, which were nurtured by the warm and humid climate. In the Trialeti region, mixed forests comprising lime, oak, and hornbeam flourished between 2600 and 2400 BC, and extended up the mountain slopes to 2,289 m asl.⁶⁸ Presently, lime, chestnut, and zelkova cannot grow in the Trialeti region, owing to cooler climatic conditions; only beech forest thrives. This favourable environment together with the fertile volcanic soils of the Bedeni Plateau also created favourable conditions for the development of farming and horticulture. Our limited evidence for subsistence derives from both pollen and macro-remains collected from Bedeni barrows nos. 2, 5, and 10.⁶⁹ We have been able to learn from the charred remains in woven baskets that the community grew wheat (*Triticum*) and millet (*Panicum*). The wheat and barley remains collected in mid-third-millennium levels at the Armenian sites of Aparan-III, Tsaghkasar-I, and Gegharot further support the idea of cereal agriculture.⁷⁰ Agricultural activity is perhaps most clearly expressed by the well-preserved threshing board from Tomb 94 at Tsaghvli in central Georgia assigned to the very end of the subsequent Middle Bronze Age II period (Figure 7.15).⁷¹ Ruderal plants such as *Polygonum aviculare*, *Centaurea*, *Carduus*, *Papaver*, and *Rumex* form another category. They grow in disturbed soils associated with crops, or near human habitats and along pathways, and are also well represented in many samples from the Bedeni barrows.

⁶⁷ I would like to thank Catherine Longford for this information.

⁶⁸ Kvavadze 2006; Kvavadze et al. 2007a.

⁶⁹ Kvavadze et al. 2015.

⁷⁰ Hovsepyan 2010, 2015.

⁷¹ Ramishvili 2008. Threshing boards are found in burials across southern Caucasia from the mid-second millennium BC to the sixth century. In Georgia alone they have been reported in eleven tombs, mostly in Shida and Kvemo Kartli (Murvanidze 2010).



Figure. 7.15. Tsaghvli, Tomb 94, threshing board (after Ramishvili 2008).

As we saw earlier in this book, viticulture was practised as far back as the Neolithic.⁷² Although we have no early kurgan settlements from which to determine the nature of grape domestication, we do have some evidence. Most dramatic are the snippets of vine canes wrapped in silver plate from Bedeni Barrow 5 (Figure 7.9(2)). Pollen of *Vitis vinifera* is found amongst the spectra from the barrow, as well as from Tqemlara Barrow 2. Spores of dung fungi, pork tapeworm ova, and sheep wool found amongst the non-pollen paly-morphs from Bedeni point to stock-raising. Add to these categories the extensive evidence of honey and beeswax, and medicinal plants, and we begin to understand the diversity of the economic subsistence during the early barrow period.

THE MIDDLE BRONZE AGE II (2000/1900–1700 BC)

The Trialeti Complex (The Developed Stage)

The focus of the Trialeti complex is the Tsalka plateau in Georgia and the adjacent Gomareti region, where a substantial number of burial mounds are located. Discoveries have also been made in the Alazani Valley, and the Dzhavakheti region. A number of barrows in Armenia (including Artashavan,

⁷² McGovern, 2003; Batiuk 2013.

Vanadzor, Lori Berd, Karashamb, and Nerkin Naver) and Azerbaijan (Uzerlik Tepe) delineate the southern and eastern borders.⁷³

CATEGORISATION

The excavations that first defined the Trialeti culture were those led by Boris Kuftin during 1936–40 and again in 1947 on the Tsalka Plateau along the Khrami River basin. These were salvage campaigns, ahead of the construction of the Tsalka Dam, and Kuftin excavated barrow burials and settlements stretching from the Early Bronze Age to the Late Bronze Age. The majority of burials, however, belonged to the Trialeti culture of the second millennium BC and included Kurgans 1–19, 22–25, and 27–46.⁷⁴ Kuftin's discoveries were promptly reported in western literature, though several decades passed before detailed re-analyses were undertaken.⁷⁵ Zhorzhikashvili and Gogadze composed a catalogue of the available finds (some had gone missing in the interim), and Gogadze also proposed a new chronology for the Trialeti culture.⁷⁶ Equally important were the second round of investigations, carried out by Otar Dzhaparidze, and more recently by Goderzi Narimanishvili.⁷⁷ Amongst the many interpretative studies, attention should be drawn to the ongoing work by Karen Rubinson, which has elucidated significant connections between the southern Caucasus and neighbouring lands, in particular Anatolia.⁷⁸

According to Dzhaparidze, the Trialeti barrows and their rites can be grouped into three broad types, which reflect social classes.⁷⁹ First, there are the lavish and grandiose log structures that required a large investment of energy and resources to construct. These rich barrows represent the elite social class, who practised cremation. Ashes of the dead were placed on a wooden cart or a litter. In the second rank, the dead were interred. Some of these tombs were also rich, as is evidenced by the remains of four-wheeled vehicles, or parts

⁷³ Martirosian 1964; Oganessian 1992b; Dzhaparidze 1994; Achundov and Narimanov 1996; Smith et al. 2009: 53–66.

⁷⁴ Kuftin 1941. It should be noted that while these burials are known as 'Trialeti', referring to the district in which they were located, they had individual names, including Beyuk Tepe, Kol'tsevoi, Korukh Tash, Chuchuk Tepe, Apostolin Tepesi, Tumasin Tepesi, Beshtasheni, Shepiaki, Kammenyi, Sabitakhcha, Dzhinisi, Kushchi, Olenii, Bednyi, Top Kar, Taparavanskii, Tabatskuraskii 'bol'shoi', Tabatskuraskii 'malyi' zemliunoi, and Tabatskuraskii. In recent years Armenian archaeologists (Avetisyan and Bobokhyan 2008) have used the more expansive term 'Trialeti-Vanadzor' to signal the culture's distribution in northern Armenia.

⁷⁵ For western literature see Minns 1943; Schaeffer 1943, 1944a, 1944b, 1948; Kuftin and Fields 1946; Burney 1958; Piggott 1969; Gimbutas 1965; Rubinson 1976, 1977; Orthmann 2014.

⁷⁶ Gogadze 1972; Zhorzhikashvili and Gogadze 1974.

⁷⁷ Dzhaparidze 1960, 1964, 1969; Narimanishvili 2004, 2009, 2010.

⁷⁸ Rubinson 1976, 1977, 2003.

⁷⁹ Dzhaparidze 1994: 81.

thereof, which must have been considered prestige items. Many of these graves contained the skull and limb bones of cattle, whose carcasses were consumed during the ritual feast. Finally, tombs with meagre assemblages, mostly ceramics, and small barrows represent the third group. Marine Puturidze developed Dzhaparidze's scheme further and identified four social groups based on the quantity and richness of grave goods.⁸⁰

MOUND TYPES

Looking at tomb architecture, the Trialeti kurgans essentially comprised a mound of earth and stone that covered a burial area. The barrows varied in size and shape, as did the burial area. Mounds were either round or oval in plan, except for Kurgan 15, which was rectangular with rounded corners. One of the largest barrows (no. 36) measured 65 m in diameter and rose 5 m above the plain. Other mounds were much smaller and constituted low rises of no more than 1 m. Construction methods varied too. Some mounds were built entirely from stone – either large blocks or fist-sized gravel. Mounds of smaller dimensions were often earthen, whereas another category combined both earth and stone. Layering the building media was not uncommon, and continued the tradition of the Martkopi and Bedeni barrows. Kurgan 23, for instance, comprised two layers of stones that were covered by earth. An intriguing variation is seen with Kurgans 37 and 38, whose builders saw fit to cover the mound with obsidian flakes.

BURIAL CUSTOMS AND TOMB ARCHITECTURE

The tomb form and burial rites within the Trialeti barrows fall into three classes: directly onto the earthen surface, in a grave-pit, or within a stone-built chamber. Generally speaking, human skeletons are absent from the Trialeti barrows, whereas animal bones, especially those of cattle, are commonplace and most likely part of the funerary rites. Trialeti communities preferred to cremate their deceased and place their ashes in wooden containers. This shift from the presence of a primary figure at Martkopi and Bedeni to barrows with no bodies has meaning. According to Smith, the mortuary rituals of the large barrows, with their conspicuous consumption of wealth and human sacrifice, also involved 'the transfiguration of a physical body into a metaphysical one'.⁸¹ This had the effect of entrenching power and authority of the leader and his kinfolk. In the Middle Bronze Age II this custom was replaced by cremation, only to appear again in the subsequent period.

Burials on the surface of the ground featured in Trialeti Barrows 5, 6, 8, 9, 18, 32, 33, and 41; other barrows – 3, 14, 35, and 39 – and also Sabit Akhcha Kurgan 3 may belong to the same type, though the reports are not clear.⁸² The

⁸⁰ Puturidze 2003.

⁸¹ Smith 2015: 147.

⁸² Dzhaparidze 1960: 40; Zhorzhikashvili and Gogadze 1974: 15–24; Bertram 2003: 28.

areas they covered varied in size, with Trialeti Barrow 9 measuring 90 m², and Barrow 8 covering 64 m², where a layer of wood superimposed by large stones was reported.⁸³ A variant of this type is Barrow 18, whose burial area was surrounded by upright stones forming a square enclosure. Irganchai Barrows 3 and 18 also had no pit or funerary construction, but a much smaller burial area (ca. 4–7.5 m²), which was situated off centre, as was Trialeti Barrow 8.⁸⁴

Rectangular pit graves have been recorded at fourteen sites in Georgia, including Trialeti, and at Ketī in Armenia, where there are four.⁸⁵ The pits were mostly rectangular and generally narrowed in size as they approached the floor of the grave, which in one case (Trialeti Barrow 7) was paved with pebbles.⁸⁶ On the whole, pits were quite substantial and deep, and more often than not orientated along the east–west axis. The size of the pits varied from Trialeti Barrow 17, the largest (15 x 11 x 5.5 m) through Trialeti Barrow I (10 x 6.5 x 2 m) to Sioni Barrow 4, which measured 2.2 x 1.15 m across the top. The Trialeti pit graves had their walls lined with wood and were sealed with wooden planks; in some cases the roof was then covered with a heap of stones. Variants on the rectangular shape were also found, the most divergent being Irganchai Barrow 21, which had a circular pit about 4.5 m in diameter that yielded a single radiocarbon date of the early second millennium.⁸⁷

Earthen pit graves with a smaller pit dug within a larger pit, creating a stepped effect, were found at four sites in the southern Caucasus.⁸⁸ This variant was widespread during the Middle Bronze Age in the northern Caucasus, but south of the mountains it found clear expression at Sabit Akhcha Kurgan 5.⁸⁹ The lower pit, roofed by wooden beams, contained a four-wheeled vehicle, which stood on a mat laid across the floor of the pit. Placed on the mat were limb bones of cattle, an ovoid wooden tray with handle, and, around the left front wheel of the vehicle, a bronze dagger and jewellery. On top of the vehicle were five ceramic containers and positioned again on the left front wheel were a cattle skull and other animal bones.

Graves with an attached passageway reached their peak with stone-built chambers, but we do have a number of examples associated with rectangular pit graves, all located in the central south Caucasus.⁹⁰ The tomb at Tqisbolo Gora, dated to the late Middle Bronze Age, had the longest passageway. It was

⁸³ Kufin 1941: 86.

⁸⁴ Despite later intrusions, the Irganchai barrows are generally placed within the Middle Bronze Age. Kakhiani et al. 1997: 59.

⁸⁵ Bertram 2003: Tables 5 and 6.

⁸⁶ The grave within Barrow 2 at Oruzmani showed the greatest contraction with depth. Measuring 5.5 x 4.4 m across the top, the pit narrowed to 3.45 x 2.85 m at its base (Bertram 2003: 34; Kakhiani et al. 1995).

⁸⁷ Kakhiani et al. 1997: 60. The reading was 1910 ± 50 BC (2278 ± 109 cal BC).

⁸⁸ Bertram 2003: Map 6.

⁸⁹ Dzharparidze 1960: 40–3; 47–51.

⁹⁰ Bertram 2003: Map 8.

attached to the east side and measured 2.6 m in length.⁹¹ Its walls were coated with a thick layer of clay. Opposite the passageway entrance, abutting the western wall was a low earthen platform. Its function remains unclear, even though the same feature also occurs at other, similar tombs. Impressions left by the weight of a wheeled vehicle were found, as at Tetri Kvebi. This type of tomb is generally assigned to the late phase of the Middle Bronze Age.⁹² Whereas the skeleton at Tqisbolo Gora was articulated, on its right side with head pointing east, at Tetri Kvebi the bones were jumbled, perhaps suggesting that the deceased had been placed on the cart.

STONE-BUILT GRAVES

It was the stone-built chambers that required the most effort, their chamber walls carefully constructed with slabs of stone. The chamber in Trialeti Barrow 36, for example, was large (15 x 12 m in area) and its wall rose to a height of 4 m.⁹³ It also had wooden posts to support its wooden roof and on its eastern short wall it connected with a passageway (*dromos*) that led to the tomb entrance. Moreover, gold fittings suggest that the walls of the chamber were decorated, perhaps to replicate a residential house.⁹⁴ A comparable chamber was found within Trialeti Barrow 45. Passageways were not restricted to stone chambers. Some pit-grave barrows (15, 17, and 34) also had them, and, according to Kuftin's notebooks, Barrows 6 and 8, which have no pit or stone chamber, had a passageway in the form of an aboveground, wooden platform.⁹⁵

RITUAL ROADS

In recent years, another significant feature has come to light, curiously not mentioned by Kuftin – ritual roads that led to the entrance of the passageways, always situated on the eastern flank of the barrow.⁹⁶ These roads were noticed when, in 1999–2000, the Tsalka Dam reservoir transgressed markedly, exposing several square kilometres of Kuftin's investigation area (Figure 7.16). A number of barrows excavated by Kuftin rose from the waters of the reservoir.⁹⁷ Five of them (3, 6, 8, 15, and 17) and two unexcavated ones (47 and 48) were connected to a road, which formed an integral part of the entire complex. These roads were unwaveringly straight, orientated on the east–west axis, and were made of stone paved and edged with larger basalt blocks. Significantly, the roads were not restricted to a particular burial type.

⁹¹ Mansfeld 1996.

⁹² Pizchelauri and Orthmann 1992: 18–21.

⁹³ Zhorzhikashvili and Gogadze 1974: 25.

⁹⁴ Lordkipanidze 1991: 61.

⁹⁵ Narimanishvili 2004: n. 5.

⁹⁶ Narimanishvili 2004; 2009.

⁹⁷ Barrows 1–2, 4–9, and 15–18, as well as some Kuftin did not investigate (Barrow 47, following his numbering system), were re-investigated.

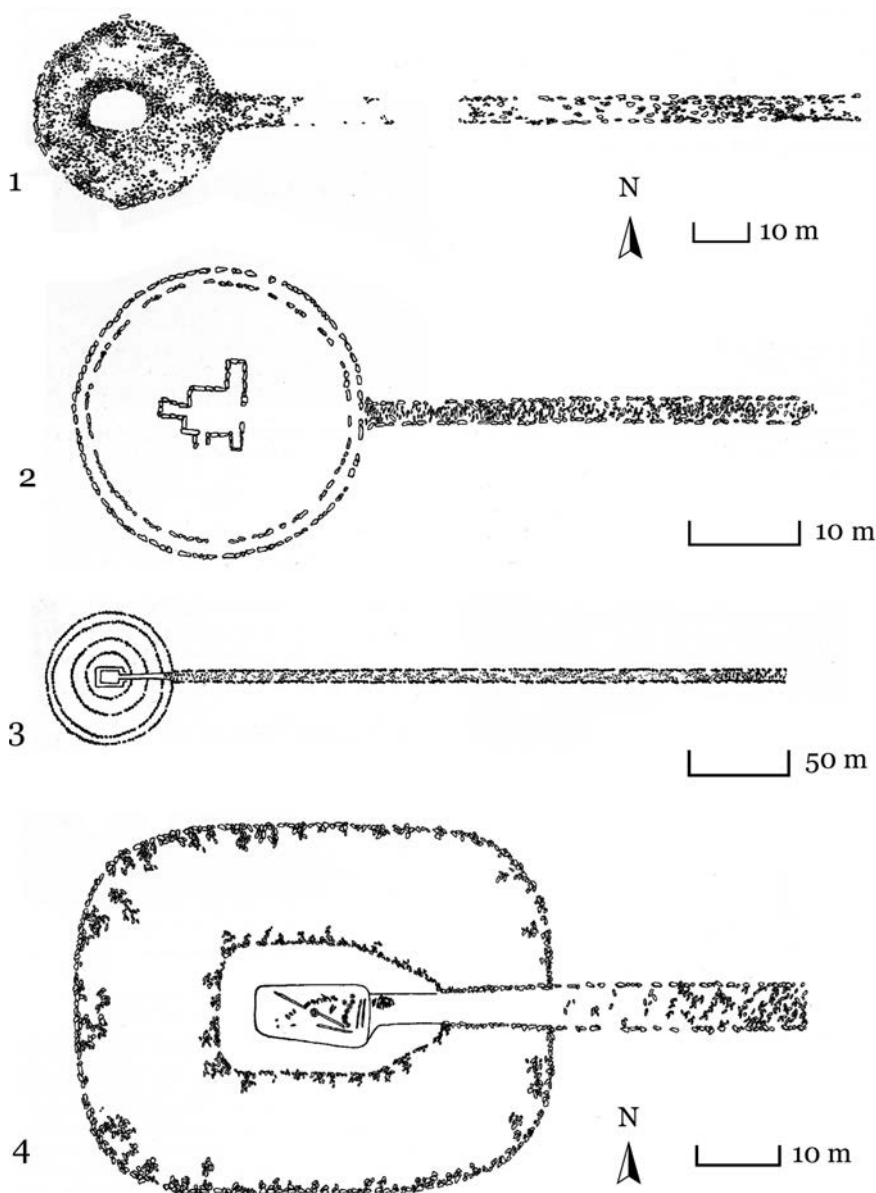


Figure 7.16. Trialeti kurgans and ritual roads: (1) Barrow 17; (2) Barrow 3; (3) Barrow 6; (4) Barrow 15 (after Narimanišvili and Šanšašvili 2010).

While the width of the roads averaged between 6 and 4 m, their lengths varied considerably. The measurements of the roads (length and width) of Kuftin's exposed barrows are as follows: Barrow 3 (oval mound with no pit) 41 x 5 m; Barrow 6 (perfectly circular mound with no pit) 160 x 6 m; Barrow 8 (circular mound with no pit) 210 x 5 m; Barrow 15 (rectangular barrow with oval burial pit and passageway) 264 x 4.5 m; Barrow 17 (circular mound with grave pit)

116 x 4.5 m.⁹⁸ Two unexcavated barrows also had roads, one over a third of a kilometre in length: Barrow 47 (round mound) 356 x 6 m; Barrow 48 (round mound) ca. 43 x 4 m. Whether these processional ways were used to approach the kurgan during the funerary rituals, or whether they were symbolic roads from the barrows to the netherworld is difficult to say.⁹⁹ In addition to roads, certain clusters of barrows also revealed segments of footpaths, earthen communication routes that connected the mounds. Finally, it has been suggested that the unexcavated rectilinear structures found at the juncture of Barrows 15, 47, 48, and their roads may have served for ritual ceremonies.

HUMAN SKELETAL MATERIAL

Human remains were sparse in the barrows excavated by Kuftin, and nothing at all was found in Irganchai Graves 3 and 18. Apart from the skeleton found in Barrow 32, only fragments of the crown of teeth (Barrow 28, 30) were found at Trialeti, leading Kuftin to the view that the deceased were cremated outside in the open and the ash then placed on the litter in the burial chamber, a funeral ritual comparable to that described in Hittite sources.¹⁰⁰ Mikheil Abramishvili has pointed out that some individuals, however, were interred and provided with rapiers.¹⁰¹

Human skeletons were found at only five sites, with Namgalamitsa Barrow 8 being noteworthy for the possible sitting position of the deceased.¹⁰² Bones of domesticated animals, on the other hand, were plentiful, especially in the rich tombs, suggesting that feasting was expensive and probably affordable only by the wealthiest families. Barrow 17, for instance, had a large quantity of animal bones in the pit grave and complete skeletons of cattle in the passageway. All the Trialeti tombs contained pottery vessels, and in several rich burials there were many other sumptuous items. We will deal with the funerary gifts later, but two pit graves (Barrows 17 and 29) are worth mentioning at this stage for the remains of four-wheeled wooden carts preserved in them. Functioning as hearses for the funeral ceremony, these carts were probably pulled along by cattle whose remains are likely those found in the tombs. Indeed, one can imagine that the funerary cart carrying the remains of the deceased moved along the ritual road to the entrance.

The Zurtaketi Barrows

Between 1959 and 1964, Dzhaparidze excavated nine barrows at Zurtaketi on the Gomareti Plateau, whose size and mode of construction are similar

⁹⁸ Narimanishvili 2004: 121.

⁹⁹ Smith 2015: 141.

¹⁰⁰ Kuftin 1941: 81.

¹⁰¹ Abramishvili 2001: 1.

¹⁰² Saduga Barrow 2, Sioni Barrow 4, Dolina Dilica Barrow 1, Namgalamicga Barrow 8, and Irganchai Barrows 1 and 4. For Namgalamicga, see Abramishvili et al. 1997.

to Trialeti Barrows 36 and 45, and Sabit Akhcha (Trialeti) Barrow 1.¹⁰³ Each mound at Zurtaketi was constructed of stone, but collectively they fell into three sizes: large barrows that had a diameter of ca. 100 m, those that averaged 45 m, and the smallest, about 30 m. Although we do not have details of the burial area of Barrow 5, each of the other barrows had a very large stone-built chamber, which in three cases had walls preserved to a height of 6 m (Barrows 3, 4, 6). The largest chambers were built on a grand scale, measuring 14.5 x 10.5 m (Barrow 3) and 14 x 10.6 m (Barrow 6) in area.¹⁰⁴ Even the smallest chambers, such as those of Barrow 1 (6.5 x 6.0 m) and Barrow 7 (6 x 5.3 m), must have required a substantial investment of energy to construct. There are variations on the rectangular plan, such as in Barrow 7, which had three smaller rooms opening off the main central chamber. In two cases (Barrows 1, 4) flat stones on the floor indicated that the burial room was separated into three compartments by columns that supported the wooden roof.

Passageways found clear expression in the Zurtaketi barrows. In Barrow 3, a passageway 40 m in length extended from the east wall of the chamber, widening from 3.8 m across, at the juncture with the tomb, to 10 m at the entrance to the barrow; its height reached 4 m. Some chambers were also furnished with niches on the north and south walls. More intriguing are the many stones incised with crudely executed patterns that decorate the walls of three of the chambers and passageways (Barrows 3, 4, 6). Barrow 4 has the most, with 120 incised stones, whereas Barrow 3 has more than 60.¹⁰⁵ Many of the motifs are linear scratches haphazardly incised on the face of the stone. Others such as nested zigzags are more recognisable geometric motifs. Very few figurative images are found and they are mostly representations of animals. These same barrows, all large, were associated with stone-paved roads: Barrow 3–160 x 4.5 m; Barrow 4–300 x 7 m; Barrow 6–400 x 6.2 m. Two of them, Barrows 3 and 4, had multi-celled structures attached to their northern embankments. Dzhaparidze originally thought these were medieval in date, but with hindsight he concedes they may well be contemporary with the mounds and part of the ritual landscape.¹⁰⁶

The Meskheti Barrows

Another important centre of barrow burials is the mountainous Meskheti–Dzhavakheti region, in the Artani basin of Georgia, where 200 mounds have been reported in an area of about 3 ha.¹⁰⁷ Communities in this region did not practise cremation, preferring individual and collective burials, though they did

¹⁰³ Dzhaparidze 1964.

¹⁰⁴ Dzhaparidze 1964: 253–4.

¹⁰⁵ Dzhaparidze 1964: 100; Dzhaparidze 1969: 255; Zhorzhikashvili and Gogadze 1974: 25–6.

¹⁰⁶ Dzhaparidze 1964: 71–2; Narimanishvili 2004: 122.

¹⁰⁷ Dzhaparidze 1994: 81.

feast on cattle whose dismembered parts were placed in the tombs. Although most of the Meskhети mounds have been plundered, we are still able to discern their architectural layout, funerary practices, and broad range of grave goods.

Barrows were circular and built in one of three ways: the largest were constructed entirely of stone; others had a barrow built from a mixture of earth and stone; and the smallest were low cromlechs. It is the design and form of its mortuary chambers, however, which have special features.¹⁰⁸ The chambers are built with stone but no mortar (dry stone). They are quite substantial structures, the largest measuring 6.0 x 3.9 m across the base, with walls 3 m high. On the whole, the burial chambers are twice as long as they are wide, and paved with flagstones. In these tombs, the passageway is a continuation of a long and narrow stone chamber, though a partition, often intact, separates the two areas. As with other stone chambers, the passageway entrance is on the eastern side of the barrow. In some barrows such as Chachkari 2, a low wall of stones encircles the passageway and the chamber (Figure 7.17(1)). The Meskhети barrows were used for collective burials. Skeletons were seldom found in the correct anatomical position, which at the time of burial appears to have been flexed with the skull placed on a heap of stones. Five individuals were reported from Ketileti Barrow 1, three from Akhcha 14 and two from Dumeila Barrow 1. Within the larger Meskhети barrows were ceramics similar to those from Trialeti, though the small tombs yielded roughly made cooking wares, brown or pale-coloured.

The Atsquri Barrow

From the Akhaltsikhe district comes the Atsquri barrow, a burial dated to the end of the Trialeti period.¹⁰⁹ It is noteworthy for several reasons. First, it contained the remains of sixty-three individuals – twenty-one adult males, thirty-eight adult females, and four juveniles – recalling the earlier collective grave at Stepanakert. This astonishing number, representing mass burial over a prolonged period, is out of kilter with the usual practice of multiple or individual burials. The grave was a circular earthen pit, just over 2 m deep and 3.8 m in diameter. It had a gravel floor and was covered with a mound of cobblestones. Human bones, the skeleton of an ox and grave goods packed the tomb and were stratified in three levels. Second, the tomb was replete with gifts that reflect a high level of craftsmanship. These include 221 bronze items (amongst them are 132 pins with a variety of heads, 29 bracelets, rings, pendants, 9 daggers, a double-pronged fork, and a spearhead), 286 beads (mostly carnelian with a few faience examples), 18 gold items (discs, plaques, and beads), and 54 handmade ceramic containers (Figure 7.17(2–15)). Third, a few of the gifts

¹⁰⁸ Dzhaparidze et al. 1984.

¹⁰⁹ Licheli and Rusishvili 2008.

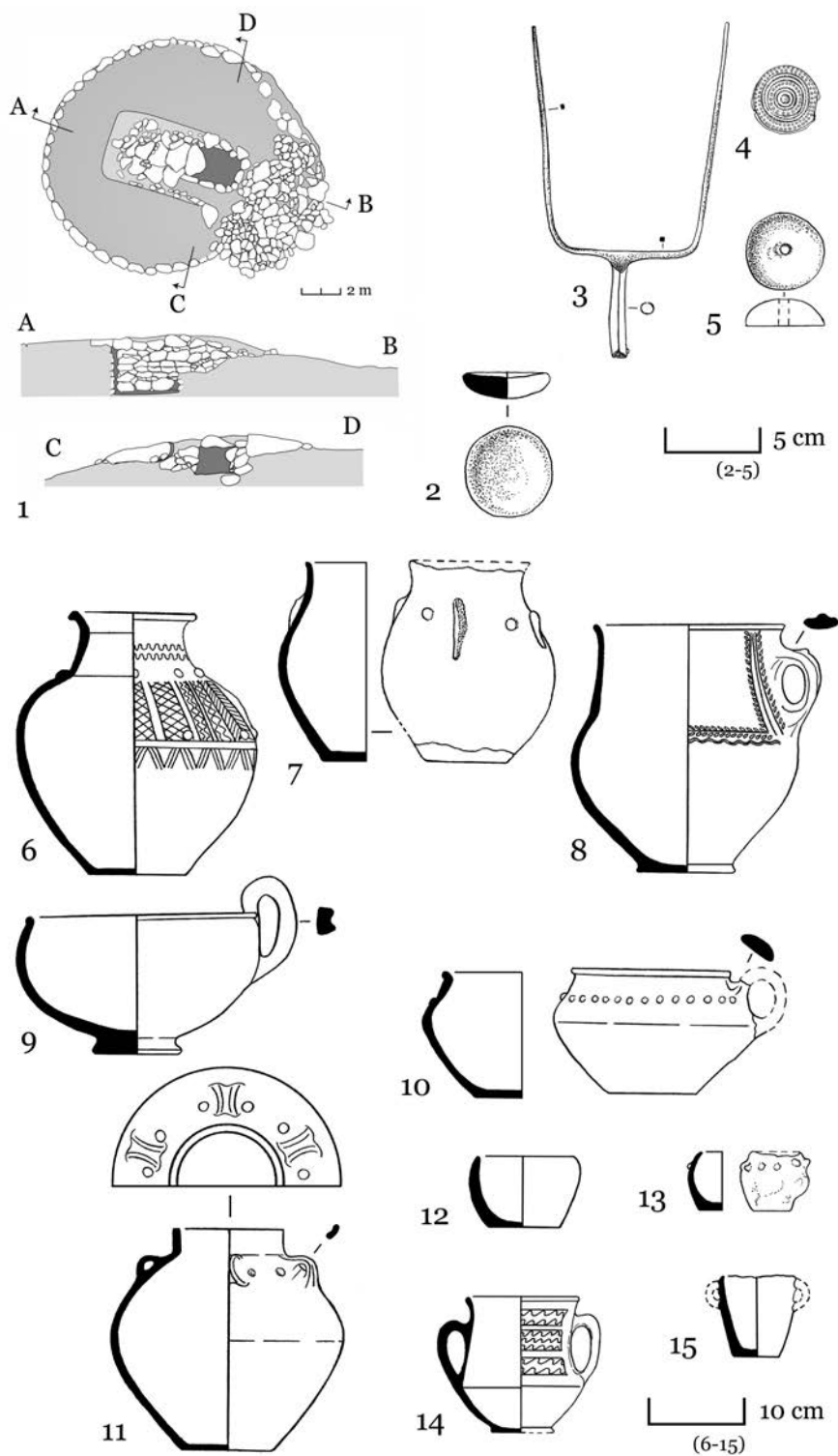


Figure 7.17. (1) Chachkar Barrow 2 (Dzhaparidze et al. 1984); (2–15) Atsquri barrow select provisions (after Licheli and Rusishvili 2008).

show distant connections, most notably the pot featuring the representation of a human face, the kantharos-like vessel (Figure 7.17(9)), a bowl with an up-swung handle, bronze weapons, pins, gold discs, and beads and pendants made of various stones and minerals. Finally, the nature of the Atsquri burial makes one reflect on its social implications and, like other Middle Bronze Age burials, the ritual implications of disposing of such wealth.

Ephemeral Settlements

A rare glimpse of the way Trialeti communities lived is afforded by the recently discovered settlement at Jinisi (in Trialeti) and by Didi Gora and Tqisbolo Gora in Kakheti. Their geographical situations, however, are different: Jinisi is located in an open field beside the Gumbatistsqali River, whereas communities in Kakheti preferred to position their villages on riverside terraces and mountain slopes.

At Jinisi, five houses and a handful of associated pits were exposed and can be dated to the end of the Middle Bronze Age.¹¹⁰ Twenty-four pits of the first millennium BC perforated this settlement, but the two separate strata could be clearly distinguished on the basis of stratigraphy, cultural finds, and pollen content. The dwellings were semi-subterranean, built within a rectangular pit that reached a depth of 1.2–1.5 m (Figure 7.18). They were substantial structures, measuring 12.5 x 7 m in the case of House 1; some had rounded corners. The lower part of the walls were preserved and built from one course of stones, laid horizontally and bonded with mud, which reached ground level. According to the excavators, the superstructure was probably built from stone as well. Field stones (basalt), dressed on one side, and riverine pebbles were selected to construct the walls.

The load-bearing parts of the roof were supported by wooden columns erected on flat stone bases, equally spaced within the house and along the walls. In House 1, four rows of wooden columns, about 2 m apart, ran along its longitudinal axis. Judging by the construction of some funerary houses within the barrow burials at Trialeti (Zurtakerti and Kushchi), the roof may have been flat, but a pitched roof is not to be ruled out. The entrance had a low threshold and was placed in the southern wall. Upon entering the house, a visitor would have noticed the compartmentalisation of space afforded by the rows of wooden columns, a circular hearth defined by a row of stones in one corner, an oven placed against the east wall, a niche in the south wall, and well-kept mud-plastered floors. The occasional flagstone, ceramic vessels filled with wheat and barley, mortars, and hand grinders scattered across the floor would also have been noticeable. A combination of farming and animal husbandry

¹¹⁰ Narimanishvili and Amiranishvili 2010.

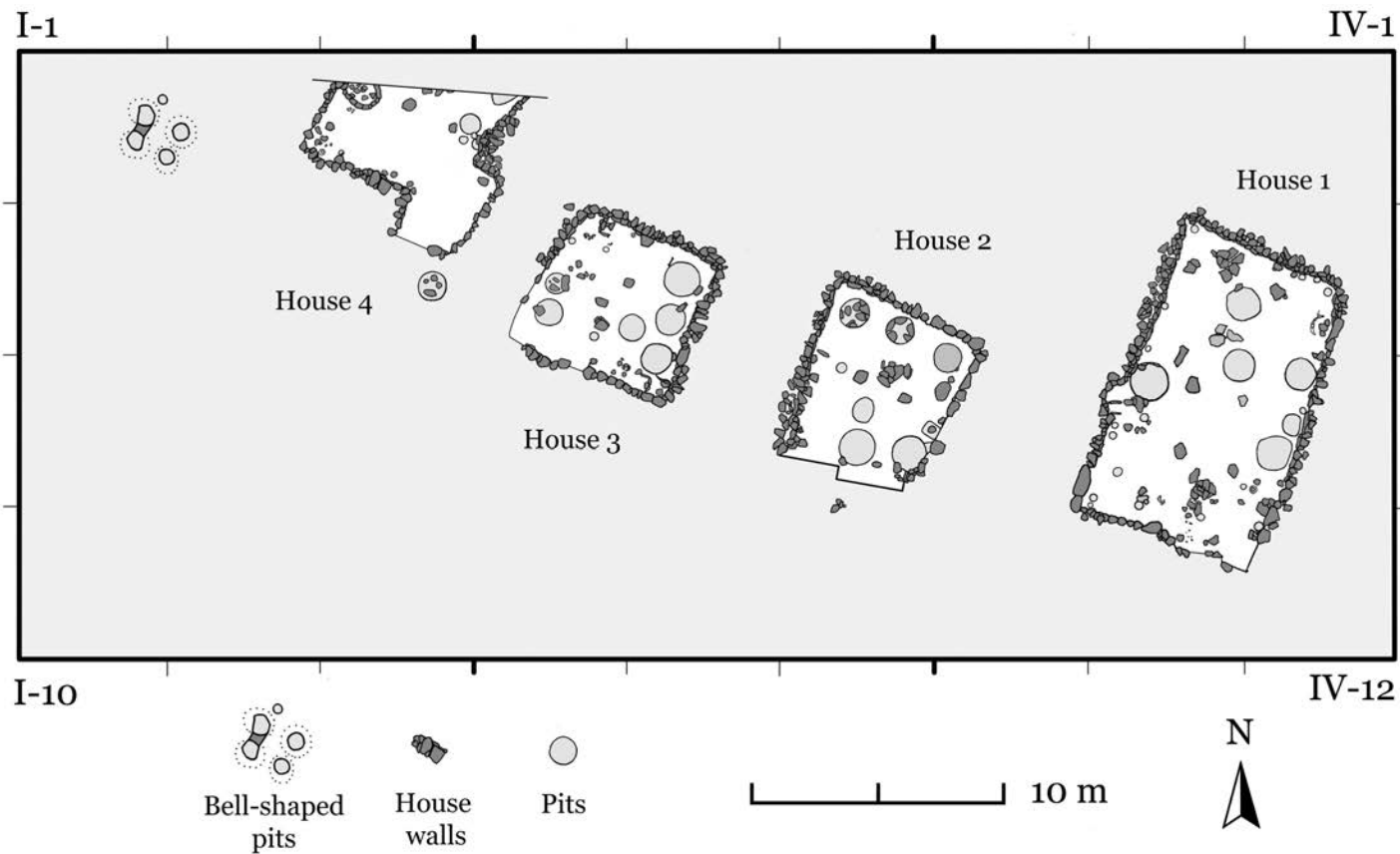


Figure 7.18. Jinisi, Trialeti settlement (adapted by C. Sagona after Narimanishvili and Amiranashvili 2010).

(cattle and horse) supplemented by hunting (deer and onager) formed the basis of the economy.

Didi Gora and Tqisbolo Gora, in the Alazani Valley, provided a very useful sequence of deposits, comprising seventeen layers, assigned to the period 2500–1500 BC.¹¹¹ The lack of tangible architecture, other than a few postholes that occasionally formed the coherent plan of a dwelling, led the excavators to suggest that the community had a mobile existence. This idea was reinforced by an absence of grinding stones, which one would expect to find in a sedentary farming community. No hearths or fireplaces were discovered, even though the sequence was interleaved with much burnt debris. At Tqisbolo Gora, four layers (Levels 5–8) were attributable to the Middle Bronze Age, with Level 6 yielding a calibrated date of 1880–1750 BC at 68.4 per cent probability.¹¹²

Gold and Silver, Stone, and Clay

Collectively, the Middle Bronze Age II is well known for the dazzling array of objects in precious metals and bronze, a good number of which are unique. In terms of technical execution and iconography, these objects reveal a fusion of local traits with foreign influences that reflect the southern Caucasus' growing participation in a far-flung system of exchange extending to the shores of the eastern Mediterranean during the second millennium BC.

SILVER GOBLETS: THE NARRATIVES

Two marvellous embossed silver goblets found in the wealthy kurgans at Trialeti and Karashamb stand out, and must both belong to the same artistic tradition. One comes from Trialeti Kurgan 5, excavated in the 1930s by Kuftin.¹¹³ It is divided into two friezes that depict a procession of figures bearing offerings approaching a seated figure, with a row of woodland animals in the lower register (Figure 7.19(1)). The top register portrays the seated individual and the twenty-two standing figures facing him. All are depicted in the same manner – with beards, prominent noses, and large eyes. Each is holding a narrow goblet and wearing shoes with upturned toes. Their costume is identical too – a fringed tunic decorated along the edges with an attached animal's tail (fox or wolf?) hanging from the back. Between the seated figure and the first person in the procession is the focal point of the scene: two recumbent animals, a tall item with narrow base that is likely to represent a frame drum,¹¹⁴

¹¹¹ Korfinann et al. 1999, 2002; Mansfeld 1996.

¹¹² Kastl 2008: 188.

¹¹³ Kuftin 1941: 87, fig. 93, pls 91–2; Gogadze 1972: 77, pls 17–18; Zhorzhikashvili and Gogadze 1974: 71 no. 486, pls 56–7; Miron and Orthmann 1995: 32, 86–7, 238; Robinson 1999; Soltes 1999: 146; Boehmer and Kossack 2000.

¹¹⁴ A frame drum has a drumhead with a width greater than its base. Given that similar shapes are found amongst the pottery repertoire, the shell of the drum is likely to have been made of terracotta and its drumhead was presumably made of rawhide.

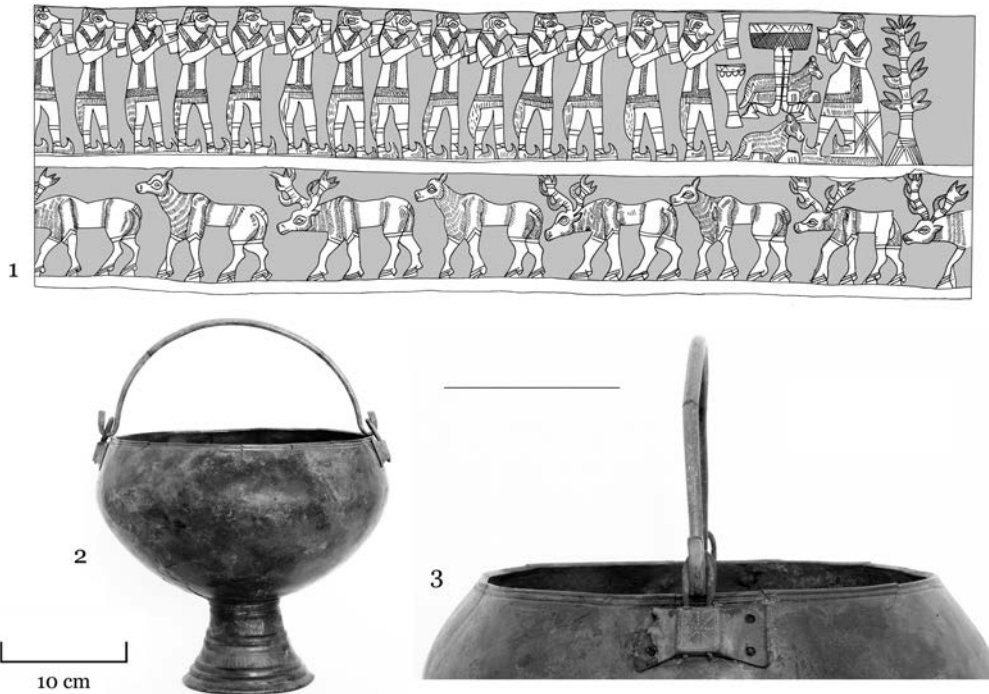


Figure 7.19. (1) Trialeti silver goblet, imagery rolled out (after Boehmer and Kossack 2000); (2–3) bronze footed cauldron and detail of handle (photographs A. Sagona).

and a table with hooved feet. A tree stands behind the seated figure and acts as a divider in the scene. The lower frieze has a procession of deer, male and female in alternate positions, walking to the left. Kuftin emphasised the local flavour of the narrative, whereas others have compared the imagery to Hittite art, or taken one step further and associated it with Indo-European mythology.¹¹⁵ Robinson has made the sensible suggestion that the Trialeti artisans, like those from Hatti, drew inspiration from the art of the Old Assyrian period. She points out that specific iconographic features such as furniture with hooved feet and shoes with upturned toes are found on the glyptics from Kültepe (Kanesh) and contemporary sites.

The counterpart goblet was found in the cemetery at Karashamb, in Armenia, in the late 1980s.¹¹⁶ Its imagery is more complex and portrayed in five registers – four across the body and one on the foot separated from the others by a geometric pattern (Figure 7.20). Three of the friezes depict primarily animals, which, in contrast to the Trialeti goblet, are mostly lions and leopards. The narrative in the top frieze begins with an archer and his dog;

¹¹⁵ Kuftin 1941: 90. For Hittite art, see Miron and Orthmann 1995: 238, and for Indo-European mythology, see Areshian 1985.

¹¹⁶ Oganessian 1992a; Boehmer and Kossack 2000; Robinson 2003.

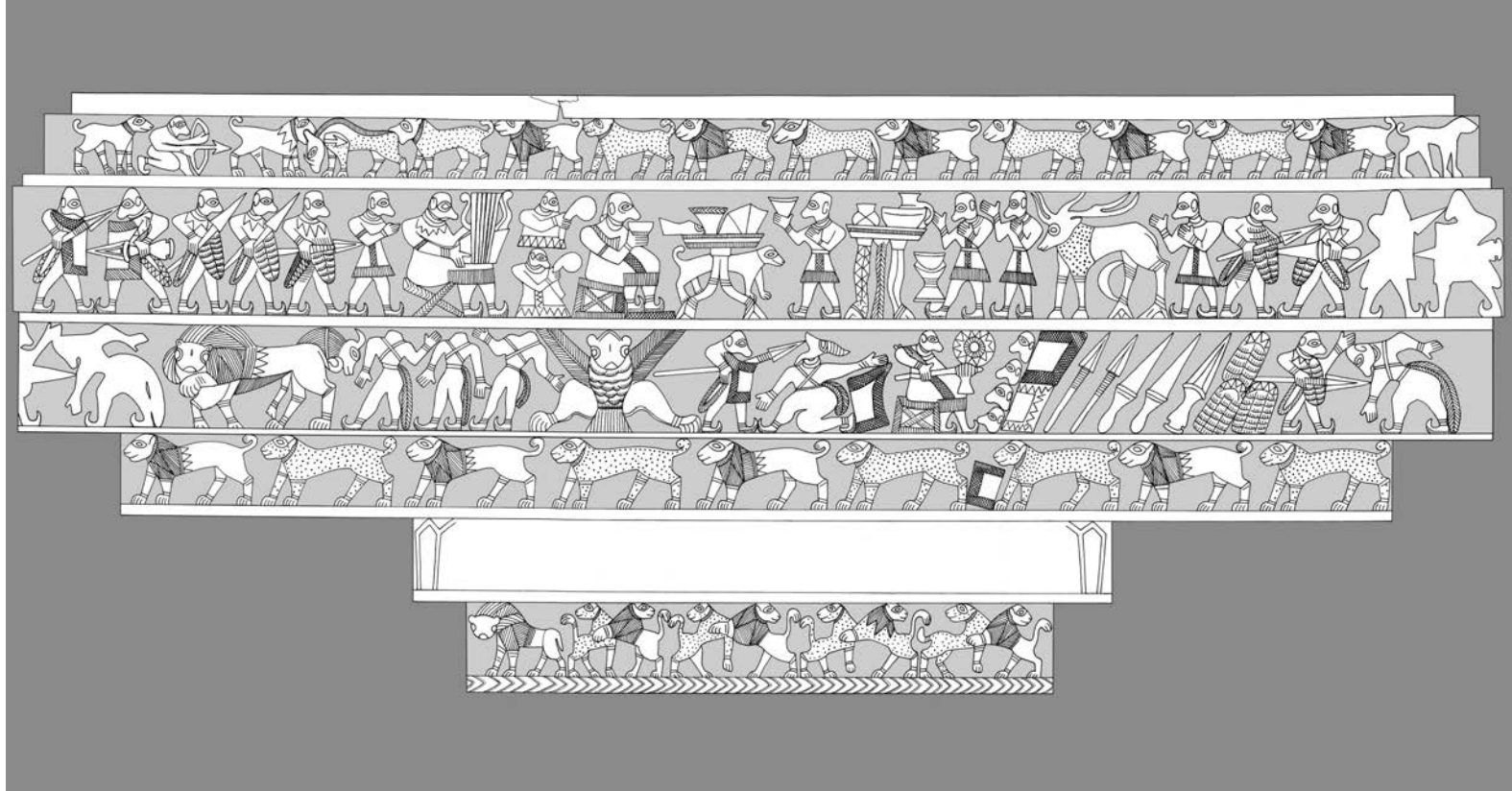


Figure 7.20. Karashamb silver goblet, imagery rolled out (after Boehmer and Kossack 2000).

nearby, a wild boar, wounded by an arrow, is shown having his neck bitten by a lion. Like the Trialeti goblet, however, the two animal friezes on the body of the Karashamb goblet conform to similar iconographic principles – moving left in a procession and an alternating fashion.

Rampant animals in a heraldic pose with their heads turned backwards, except for one lion in profile looking front-on, are depicted in the lowest frieze. The widest bands show a multiplicity of activities involving conflict and ritual. Whereas the human figures have similar facial features to those on the Trialeti goblet, their heads are shaven. The focal point is the seated figure in the second register. He is larger than the others, seated on a (woven?) stool with podium, holding a cup by its narrow base. Although his head is mostly shaven, he appears to sport a ponytail. He wears a short-skirted fringed tunic and shoes with upturned toes, a similar costume to other men in this ritual scene; an armband (or short sleeves?) completes his attire. In front of him is a table with hooved feet, bearing various objects, one of which appears to be a conical cup. On the other side of the table, facing the seated figure is a standing man with raised hands, also holding a cup, and behind the table is an animal, possibly a dog. Next is a tripod table, a biconical stand holding a bowl, followed by two males, a deer and another man. Returning to the principal figure, behind him are two kneeling/squatting figures holding what appear to be fans, or possibly instruments. The next figure, moving left, is a musician playing a lyre; he is seated on a cross-legged stool and wears a zigzag-edged collar. This ritual scene ends with another standing figure, again with upraised arms. Men armed with weapons and holding U-shaped or square shields, possibly woven, flank this core scene on either side. There are two juxtaposed pairs brandishing spears and daggers, engaged in battle, and three armed warriors are heading towards the principal seated figure. Each of these soldiers also has a scabbard.¹¹⁷

The third frieze appears to be more compartmentalised in its activities and each section deals with conflict. The focal point is the hybrid creature (a lion-headed bird) situated beneath the principal figure in frieze two. To the left of the creature are three headless bodies that have a (fox?) ‘tail’ hanging from their waist similar to those worn by figures on the Trialeti goblet. To the left are a lion and goat, standing beside each other, with the lion looking front-on. Each of the vanquished warriors in this register is dressed in a similar fashion – cross-straps across their chests, shoes with turned up toes, and a tail. The victors, on the other hand, are armed and hold shields. To the right of the hybrid creature are four interconnected scenes: an armed warrior pointing a spear at the head of his enemy, who has succumbed; a seated figure wielding an axe and facing four heads protruding from two rectangular shields; weaponry – spears, daggers, and shields; and another battle scene.

¹¹⁷ I agree with Robinson (2003: 135) on this point, as opposed to Boehmer in Boehmer and Kossack 2000: 21, who considers them ‘tails’.

SILVER GOBLETS: INTERPRETATIONS

How one should read these stories remains problematic. Boehmer maintains that the scenes are court scenes, which drew inspiration from Mesopotamia. He discerns a prince, viziers, musicians, warriors, a mythical creature, and wild animals worthy of the hunters. We are on slightly firmer ground when it comes to identifying artistic traditions. Karen Robinson has persuasively argued that certain iconographic details on the two goblets derive directly from the glyptic tradition of the Old Assyrian colony period, as reflected on the seal impressions from Kültepe Kanesh.¹¹⁸ Such details of imagery include the general nature of the ritual scenes; the construction of the furniture – especially the ritual tables with hooved feet; shoes with turned-up toes; standing figures with bent, upraised arms; and lions in profile looking front on. Boehmer, however, argues that the stimulus behind the imagery of the Karashamb goblet is the iconography from the Early Dynastic and Akkadian period.¹¹⁹ He suggests that features such as the lion-headed eagle (Imdugud), the seated lyre player, the squatting position of the pair of figures, dagger types, and several other features are quintessentially Mesopotamian. If Boehmer were correct in his assumption, then we would need to account for the time lag between the Early Dynastic and Akkadian sources of art and the Karashamb goblet, dated to the early second millennium BC. The central Anatolian connections with a contemporary culture province certainly make sense in this regard, and they suggest that the dynamics across the highlands in this period were east–west, as they were in the Kura-Araxes period, rather than north–south, as they tended to be in the pre-Kura-Araxes period.

Whatever the art historical connections, there are several important themes that run through the narrative and reflect on the society. Smith has cogently summarised these as ‘war and conquest, feasting and celebration, punishment and ritual, and hunting’.¹²⁰ These images and the accompanying grave furnishings leave no doubt that we are dealing with a warrior class, whose leaders had characteristics that society believed allowed them to overcome rivals. Although we have no texts, the imagery is telling. It comes as little surprise that there is an emphasis on the masculine qualities of the leader, such as weapons, against which men in this period presumably measured their own manliness.

MORE METAL CONTAINERS

A silver conical bucket from Barrow 17 and the bronze-footed vessel from Barrow 5 are equally of interest. Edged with gold, the imagery on the damaged bucket portrays plants and animals in bas-relief. Kuftin took it as a hunting

¹¹⁸ Robinson 2003.

¹¹⁹ Boehmer and Kossack 2000.

¹²⁰ Smith 2015: 150.

scene, even though the figure of the hunter is no longer preserved.¹²¹ The bucket also has a distinctive basket handle, similar in design to the one on the bronze vessel. This small cauldron, standing 21 cm high, is another fine example of the Trialeti metalworking tradition (Figure 7.19(2–3)). Beaten from a sheet of metal, it has a reinforced edge and a curved wire handle with turned up ends that are attached to two loops; these are in turn connected to fasteners (metal plates or cylinders) riveted to the wall. Its decorated conical foot is hollow with a flat closed base. This type of handle has been found across the Near East within an Early Dynastic Akkadian context and through to Mycenae (Shaft Grave V), but, as Robinson has shown, the closest parallels come from early second millennium levels at Kültepe–Kanesh.¹²²

GOLD WORK

Gold work also reached a peak in this period. Jewellery items include flat, disc-headed pins decorated with repoussé dots. A unique gold cup (Trialeti Barrow 17), manufactured from a single sheet of gold, possibly on a lathe, attests to metalworking sophistication.¹²³ It has a double wall and is decorated with filigree volutes encrusted with semi-precious stones – carnelian, lapis lazuli, and red sardine. The volutes were made separately and firmly attached to the wall with small hooks. The pedestal of the cup has a flat, soldered base, decorated in an openwork pattern and set with jet.

From Trialeti Barrow 8 came the equally impressive gold necklace of fourteen large spherical hollow beads of increasing size, most decorated with repoussé dots or true granulation. Its centrepiece is a pectoral of agate in a gold mounting embedded with carnelian (Figure 7.21(1)).¹²⁴ This piece is particularly remarkable as a barometer of the burgeoning trade in luxury items across the Near East and Mediterranean. Since its discovery, this example of south Caucasian granulation has been compared to jewellery from Uruk bearing the name of Shusin (2037–2030 BC), of the Ur III period, but others prefer to use an agate piece from Ur attributed to the Akkadian period to date the necklace, thereby lifting the beginning of the Middle Bronze Age into the last century of the third millennium BC.¹²⁵ Similar exquisite jewellery pieces have been found at Lori Berd Barrow 65 and 94 (Figure 7.21(6–9, 11)).

A high (ca. 2200–2350 BC) date for the first phase of the Trialeti Middle Bronze Age is in line with Gogadze's reckoning for Barrow 14, which contained

¹²¹ The photograph in Kuftin 1941: pl. 88 has more of the scene preserved than exists today; Robinson 2003: 140.

¹²² Robinson 2001.

¹²³ Kuftin 1941: 92, pl. 103; Gogadze 1972: 69; Zhorzhikashvili and Gogadze 1974: 93, fig. 737, pl. 89; Miron and Orthmann 1995: 85, 238, pl. 67; Soltes 1999: 63, 144–5.

¹²⁴ Kuftin 1941, fig. 97, pls XCIV–XCV; Gogadze 1972, pl. 20; Zhorzhikashvili and Gogadze 1974: pl. 71; Miron and Orthmann 1995: 91, 241.

¹²⁵ Abramishvili 2010: 171, following Gogadze (1972) and Kavtaradze (1983).

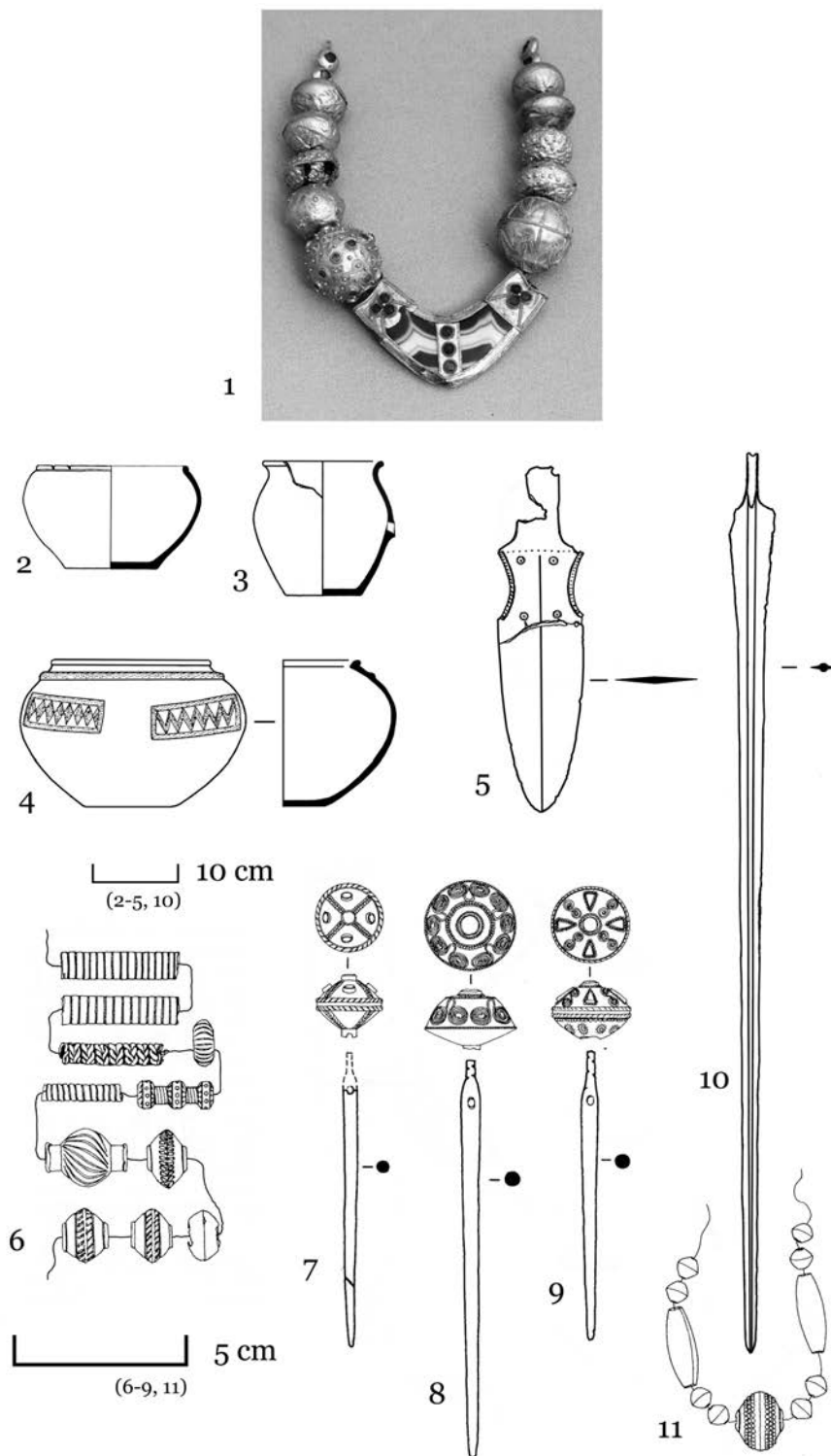


Figure 7.21. (1) Trialeti Barrow 8, gold necklace with agate centrepiece (courtesy Georgian National Museum); (2–3) Lori Berd Barrow 92, ceramic containers; (4) Lori Berd Barrow 61, ceramic container; (5, 7–11) Lori Berd Barrow 65, ceremonial dagger edged in gold, rapier, pins with spherical heads and beads; (6) Lori Berd Barrow 94, select beads (after Devedjian 2006).

an assortment of foreign objects from Egypt to the Indus.¹²⁶ Similar banded agate pieces, components of necklaces, have been found at the Armenian sites of Karashamb and Nerkin Naver, and from Tepe Hissar in north-eastern Iran to the island of Malta in the central Mediterranean.¹²⁷ It is the Maltese agate segment from the Punic site of Tas-Silġ that is closest to the Trialeti example, both in shape and banding, and they are quite possibly even from the same workshop. Probably crafted in the late third millennium BC as a component part of jewellery, the Tas-Silġ item was broken, travelled and eventually found its way to Malta, with a cuneiform inscription etched into one face that has dated the piece to 1300 BC.

TOOLS AND WEAPONS

Bronze tools and weapons are not found in large numbers in the elite burials, being more commonplace in the small barrows. Amongst the weapons, a slim sword blade (rapier) from Trialeti Barrow 1 is noteworthy. Swords of this type are not typical of the Trialeti culture, but are nonetheless found in a random distribution across central south Caucasia, including Lori Berd Barrow 65 (Figure 7.21(10)) and foreshadow the Late Bronze Age rapiers.¹²⁸ This lethal weapon, with its pronounced length (about 1 m) and high central ridge running down its entirety, heralded a novel style of warfare. Its slender, sharply edged and pointed form, widening at the handle end, is best suited for thrusting attacks.

Parallels with the Type A sword from the eastern Mediterranean are compelling, yet the south Caucasian examples are unlikely to be imports. Instead, they were locally made expressions of a technological idea that swept through several regions. According to Mikheil Abramishvili, the rapier's prototype can be found in a Middle Bronze Age I context (Saduga Barrow 2).¹²⁹ Indeed, he goes one step further and suggests, on the basis of archaic elements the south Caucasian rapiers bear, that this weapon may have originated in the southern Caucasus and spread to the Aegean via Anatolia.¹³⁰ That these rapiers were found in medium-sized barrows indicates to Abramishvili that they belonged to a particular class of warrior, in a more privileged position than the rank and file who were equipped with daggers, ovoid shield and spears. Other weapons include daggers with plain or fluted midrib and bronze socketed

¹²⁶ Abramishvili 2010: 171.

¹²⁷ Sagona and Sagona (in press) for a discussion of the inter-regional connections. Santrot 1996: 64, fig. 32 (Karashamb); Kalantaryan 2007, tables XIII–XV (Nerkin Naver, Barrow Burial N1) – I would like to thank Ruben Badalyan for Nerkin Naver reference; Schmidt 1937: pl. XXXV (Tepe Hissar IIIC).

¹²⁸ Abramishvili 2001.

¹²⁹ Abramishvili 2001; 2010: 172; Picchelaury 1997, pl. 36.

¹³⁰ Picchelaury (1997: 17), contra the early views of Iessen, Kushnareva and Martirosian, also argues that the Caucasian rapiers were an indigenous invention. But his chronology is lower than Abramishvili's.

spearheads. We also have a ceremonial dagger edged in gold from Lori Berd (Figure 7.21(5)).

BURIAL CERAMICS

Vessels of Trialeti type are quite different to their predecessors and are generally divided into two groups. The majority of the first group (referred to as Trialeti-Vanadzor I in Armenian studies) have a black, grey, or brown matte surface, have a gritty texture and are generally poorly baked. Fine wares, on the other hand, have a crisp fabric and a black polished exterior. Potters now manufactured rounded pots or ovoid jars with high shoulders and a cylindrical neck (Figure 7.22(2–4)). The main distinguishing feature is decoration, restricted to the upper part of the vessel. Patterns mostly comprise punctate designs produced with a comb or roulette, or incised patterns including nested or hatched triangles pendant to the neck; solid knobs were used occasionally to define the juncture of the neck and shoulder.

Black wares with fine, incised linear designs (Figure 7.22) continue into the second phase (Trialeti-Vanadzor II), when quite different and striking painted ceramics were crafted. Jars are usually well fired to a grey colour and slipped on the exterior in red, dark brown, or black. Motifs include bold spirals, swirling snake patterns, and volutes executed in brown or black paint. Other designs include chevrons, zigzags, and wavy lines painted in black on a smoothed red surface (Figure 7.22(4)). Although the painted wares have the same forms as black polished vessels and often accompany them in barrows, the concept of ornamentation is introduced from the south, in the Ararat Plain and Araxes Valley where we shall encounter highly developed painted pottery traditions.

SETTLEMENT CERAMICS

Didi Gora and Tqisbolo Gora have now provided a new understanding of settlement ceramics of the Middle Bronze Age, which for so long had been represented only by the funerary gifts placed within the barrow burials. Although the pottery from these sites comprises a homogenous assemblage, they differ significantly from the funerary repertoire. The bulk of the ceramics are simple kitchen and storage containers with a coarse fabric; the fine black polished wares found in tombs are not common (25–30 per cent), and painted pieces are quite rare. In terms of quantity, the sherds collected from the Middle Bronze Age levels are considerably fewer than in the later periods, supporting the theory of mobility.

Gabriele Kastl has noted that the pottery is handmade and generally poorly fired, often displaying a dark grey inner core.¹³¹ Surfaces are roughly smoothed and baked to colours that range from pale brown to dark grey, suggesting no controlled firing. The fabric is generally tempered with sandy grit, occasionally with obsidian inclusions, and rarely with chaff. Forms are

¹³¹ Kastl 2008: 189.

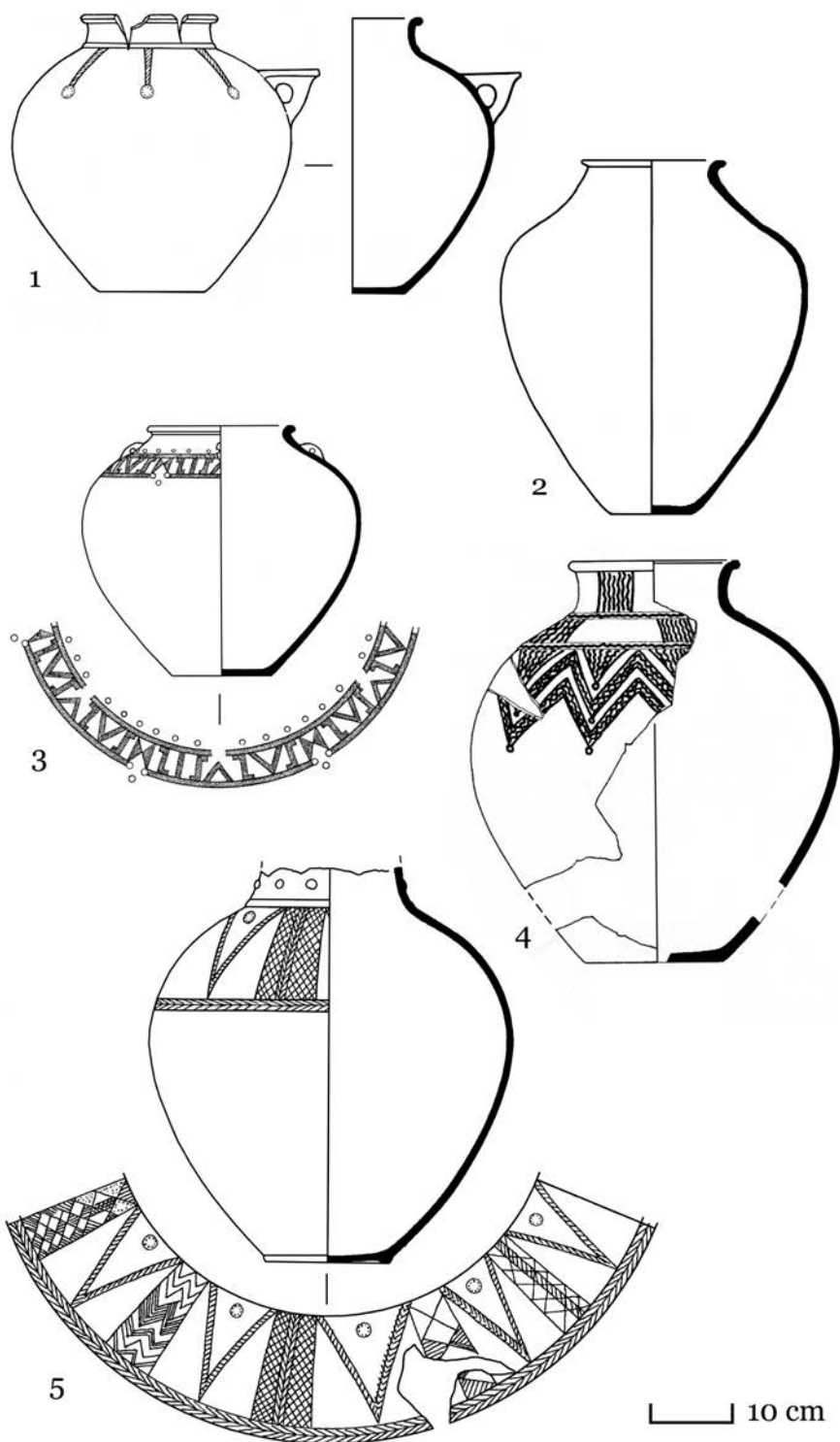


Figure 7.22. Trialeti-Vanadzor pottery from Lori Berd, Armenia (after Devedjian 2006).

fairly restricted – mostly open-mouthed pots with splayed rims and rounded, flattened, or slightly thickened lips; and broad pans with upright sides. These vessels were rarely decorated; ornaments, for the most part haphazard notches, appear only in the late Middle Bronze Age, when obsidian temper disappears. Another distinct surface treatment is roughening of the neck with a comb, which was dragged across the surface at a slight diagonal. This effect, too, appears towards the end of the period and foreshadows ornamentation in the Late Bronze and Iron Ages. No examples of Bedeni ware were found, though a few fragments in the lower levels resemble Martkopi. Ceramics of the developed Trialeti were found from the upper levels of both sites. A large, black burnished jar from Didi Gora Level II is finely ornamented with a comb stamped and grooved zigzag design.

The Brili Cemetery

Before we turn to other matters, the extraordinary material, largely unpublished, found at the Brili cemetery – located in west Georgia, in the Upper Racha region – deserves attention. Brili was a place of considerable importance to the local communities who used it intermittently as a burial ground for about 2,000 years from the early second millennium BC to the fourth century AD. Investigations led by Germane Gobedzhishvili more than seventy years ago opened more than 200 tombs at Brili, which is characterised by a diversity of belief systems and mortuary practices – earthen pit tombs, stone cist tombs, and cremation platforms.¹³²

Most attention has been directed to the ceremonial weapons and other items from stone cist Tomb 12, which provides yet another glimpse of the pomp and splendour displayed by leaders of the Bronze Age. Like special items from other burials of the Middle Bronze Age, the Brili metalwork was manufactured for display. These elaborate objects were an ostentatious expression of authority and power, which leaders of the day used for maximum effect.

A recent study described Tomb 12 as a double-storeyed stone cist with a large septal stone dividing the lower chamber from the upper one.¹³³ It is not clear how many individuals were buried in the tomb, possibly as many as five. Their bones were scattered across the tomb, except for those of two individuals. The primary burial comprised the articulated skeleton of a middle-aged or young male lying on his left side in a highly contracted position with the head

¹³² The total number is unclear, suffice to say that the majority (some 200) were earthen pits. For the original preliminary report see Gobedzhishvili 1959. Other interpretative studies can be found in Krupnov 1951; Gogadze and Pantskhava 1989; Miron and Orthmann 1995; Motzenbäcker 1996; Pantskhava et al. 2001.

¹³³ Pantskhava et al. 2012. Earthen pit 31, as yet unpublished, is reported as having similar material to Tomb 12.

pointing south and hands in front of his face. Another skeleton, also contracted, was found on its right side, with fragments of black pottery, a pair of pins, and many beads found beneath the skull. The original diaries also reported that the floor of the lower chamber was decorated with countless minute beads made from a sky-blue paste (*faience?*), but regrettably they were not properly documented.

The distribution of grave goods within the tombs also displayed an intentional pattern, though its meaning is unclear. Bronze pins, axes, and daggers lined the southern and northern walls of the chamber, whereas most other items, including ram-headed pendants, spearheads, socketed axes, and daggers, were scattered across the floor. Three pairs of bronze bracelets, a pair of temple rings, two fragments of a silver sheet, and several jade beads were placed in the centre part of the chamber floor.

Amongst the most precious items are a number of sinuous axes of exaggerated form, some elaborately decorated, which most probably functioned as ceremonial objects (Figure 7.23(1–3)). Stylistically, they compare well with items from the northern Caucasus, especially those recovered from the Faskau cemetery (Figure 7.23(4–7)), near Galiat in the central northern Caucasus.¹³⁴ There is little agreement on their date, other than that they belong to the second millennium BC and lie somewhere between the curved axes from Early Bronze Age Sachkhere and the ornamented examples from Early Iron Koban. Some assign the Brili axes to the Middle Bronze Age (1800–1600 BC), largely on the basis of their long tubular socket and exaggerated forms, whereas other researchers believe they are better accommodated in the Late Bronze Age (1300–1250 BC).¹³⁵ Overall, the higher date seems to me the most compelling, though without a single radiocarbon date we are at the mercy of artefact typology.

A high sense of decorativeness is a key feature of the Brili axes. One example with an up-swung, curved blade has five ram heads running down the back of its tubular socket, which is decorated with horizontal incisions (Figure 7.23(2)). Rows of incised motifs are also applied to the upper edge of the blade. Another axe bears an excised pattern of triangles and two ram heads – one placed at the back of the socket and another attached to the upper edge. Of these items, the one with curved downturned blade (Figure 7.23(1)) is most likely a ceremonial standard and has a close parallel at Faskau. Other sinuous axes from Brili that have no decoration have been loosely compared to items from Mestia (in upper Svanetia) and Tli (Georgian Tlia).¹³⁶

¹³⁴ Uvarova 1900; Krupnov 1951. For east European connections with Faskau see Gimbutas 1965: 66.

¹³⁵ Most studies prefer an early to mid-second millennium date, though Pantskhava et al. (2012) maintain a low chronology in the last centuries of the second millennium.

¹³⁶ Pantskhava et al. 2012: 40.

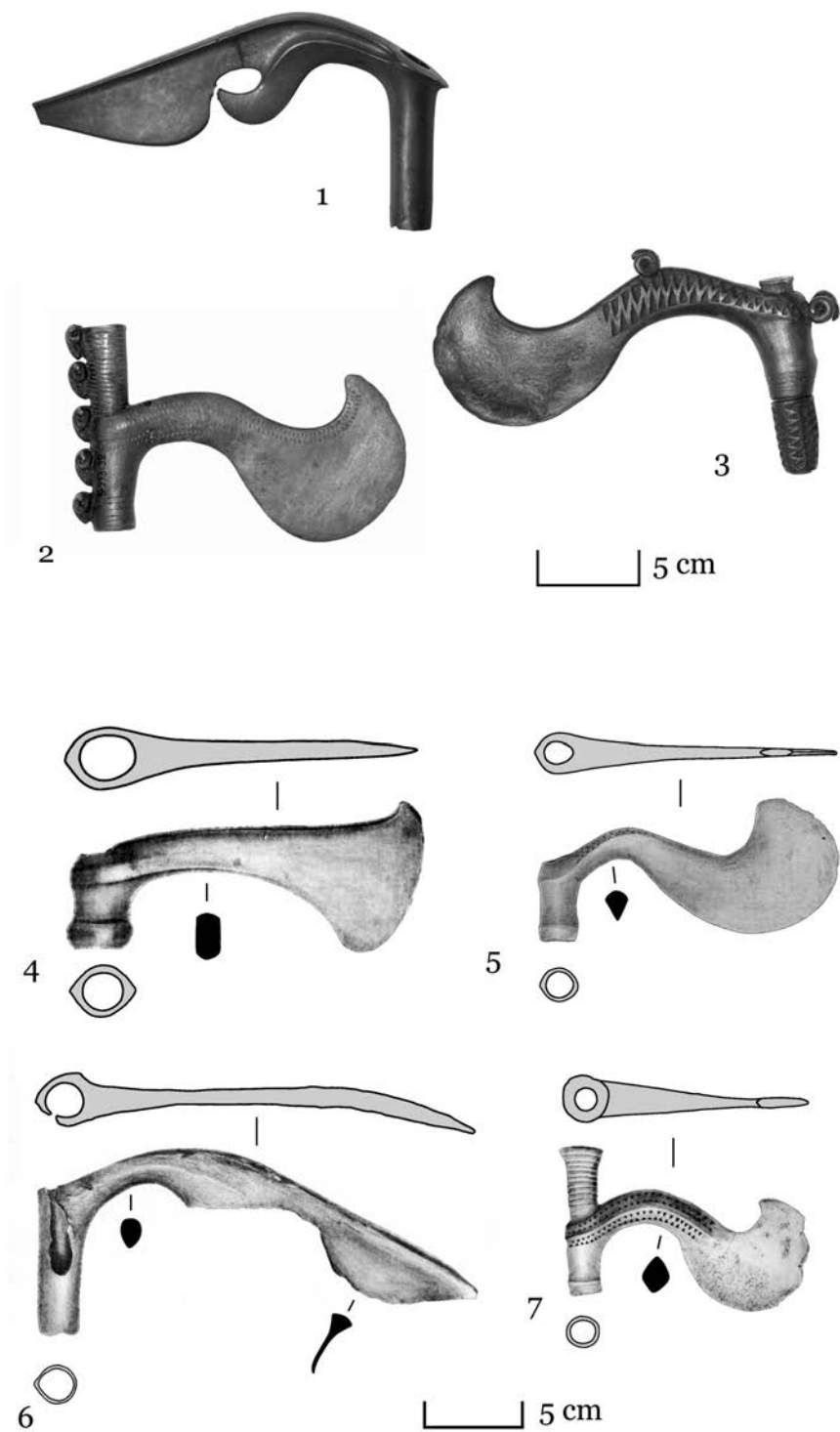


Figure 7.23. Ceremonial standards (1–3) Brili (photographs A. Sagona); (4–7) Faksau (after Motzenbäcker 1996).

Ram heads are an important decorative element and are also used on pendants, which come in a variety of shapes, including miniature axes. One type comprises a pair of conjoined Brili-type axes, and another is a central south Caucasian axe. Yet other pendants are simply ram heads with spiralling horns of different lengths. Brili spearheads are of two types – those that are cast with a hollow socket and those with a thick sheet that wrapped around the top of the wooden shaft. Both are fairly common and found throughout the central and southernmost south Caucasus, but they do not help in the dating of Tomb 12. Eight daggers are part of the metalwork assemblage. They are either leaf-shaped or elongated and relatively small in size. Like the spearheads, there is no measure of agreement on chronology: both early and late second millennium dates have been suggested.

WAGONS AND CARTS

Origins and Distribution

The invention of wheeled vehicles was a breakthrough of singular importance in the history of technology. Its creation, so simple yet so radical, gradually transformed community life. The wheeled vehicle revolutionised economic pursuits and social activities, transport, and contact. Whether the earliest vehicles – carts (with two wheels) and wagons (with four wheels) – were of any practical use in day-to-day activities such as carrying heavy loads, however, is a matter of contention. Some have argued that the sheer bulk of these early vehicles and their wide and clumsy turning circle would not have made them a suitable mode of transport.¹³⁷ On the other hand, the presence of a large amount of plantain pollen on the wheels from Tqemlara Barrow 4, in Georgia, for instance, would suggest that the vehicles might have been used in daily life.¹³⁸ This evidence and preliminary studies carried out by Margarethe and Hans-Peter Uerpmann, who have reported stress marks on cattle bones caused by hard work, support Andrew Sherratt's original idea that early, wheeled vehicles were part of a set of innovations including the plough and animal traction.¹³⁹ These changes belong to what Sherratt termed the 'Secondary Products Revolution', which Svend Hansen has shown also involved a dynamic network of exchange and communication systems, from central Europe to the Caucasus.¹⁴⁰

¹³⁷ Burmeister 2010.

¹³⁸ Shatberashvili et al. 2010: 197.

¹³⁹ Sherratt 1981; Uerpmann and Uerpmann (2010) studied several sites but the cattle bones from Metz Sepasa in Armenia are particularly telling.

¹⁴⁰ Sherratt 1981; Hansen 2010; Halstead 2011. According to Uerpmann and Uerpmann (2010: 237–8), however, we should dismiss the notions of periods assigned to the exploitation of 'primary' and 'secondary' products.

Exactly where and when the wheeled vehicle was developed is a moot point. Sherratt maintained that ox-drawn wagons were most likely conceived in regions with large populations and a high concentration of domesticated herds. To his way of thinking, the south Mesopotamian urban centres had the requisite criteria, and the 'Uruk Expansion' provided the process of dissemination northward to Europe.¹⁴¹ Not so, says Joseph Maran, who argues with equally compelling evidence that wheeled transport was a north Pontic invention that moved south via the Maikop territories to Mesopotamia.¹⁴² We know that wagons and carts appeared considerably later than the use of domestic beasts for drawing sledges. Indeed, it is likely that wheeled vehicles evolved from the slide-car through the A-shaped cart to the rectangular-bodied wagon.

Current evidence suggests that wagons and carts appeared at approximately the same time, in the second half of the fourth millennium BC, in several regions – Mesopotamia, Europe, and the Caucasus.¹⁴³ The nature of that evidence, however, is very different in each region. From Mesopotamia we have some twenty-four pictographs for the sledge, but only four pictographs, inscribed on the earliest written clay tablets from the Eanna precinct (Level IVa) at Uruk, document the wheel's appearance. In the Caucasus, waterlogged and generally anaerobic conditions in many barrow burials have preserved actual vehicles. Europe, on the other hand, is known for its wheel depictions on pottery and clay models of wagons. Animal figurines and clay models of wheeled vehicles are ubiquitous throughout the Old World. One thing is certain; namely, wheel technology soon acquired a symbolic and prestige status. It was developed and transferred by elites, who included wagons and carts amongst the furnishings of their tombs. Eventually the light spoke-wheeled chariot, discussed in Chapter 8, whose manoeuvrability transformed warfare, superseded the heavy and lumbering wagons and carts.

Early wheeled vehicles are inextricably part of Caucasian history. The rich concentration of preserved vehicles on both sides of the Caucasus Range, unrivalled in any other place on earth, enables us to track their development with some degree of confidence.¹⁴⁴ Some studies have accorded chronological primacy to the barrows (pit graves) of the Russian steppes, belonging to the Pit-Grave (Yamnaya) communities, over the agrarian communities of the

¹⁴¹ Sherratt 2004.

¹⁴² Maran 2004.

¹⁴³ Piggott 1983; Anthony 2007. For an important collection of articles, see Burmeister 2004, and for a summary of research on wheeled vehicles, there is Bondár 2012. Mesopotamia still has its followers as the place of origin of wagons (Bakker et al. 1999; some in Burmeister 2004; Hansen 2010: 306), but the new radiocarbon readings from the northern Caucasus suggest that it is still too difficult to call. Europe, too, has some compelling claims.

¹⁴⁴ Piggott 1969, 1983 and 1992, and before him Childe 1951, 1954a and 1954b. See also Littauer and Crouwel 1979; Bertram 2003: 157–66; Burmeister 2004; see also Trifonov 2004.

south Caucasus. New radiocarbon analyses, however, have begun to alter this perspective and suggest that the two periods are more or less contemporary.¹⁴⁵ This would mean that vehicles appeared on both sides of the Caucasus at about the same time. The sum probabilities of the one-sigma (68.2 per cent) confidence level of several hundred radiocarbon readings indicate that the beginning of the Pit-Grave horizon should be placed at the end of the fourth millennium or early third millennium BC, with the earliest dates (ca. 3700 BC) deriving from the eastern and western peripheries, in the Ural and Volga basins.¹⁴⁶ Furthermore, it now seems that the Catacomb (Catacombna) communities, once thought also to follow the Pit-Grave, in fact co-existed with it over several hundred years (ca. 2900–2200 BC). ‘The results of radiocarbon chronology’, notes Chernykh, ‘explode our previous calendar position of the main Eastern European steppe communities’.¹⁴⁷

To these new analyses we can add the growing number of radiocarbon dates from the southern Caucasus that make it possible to place the beginning of the Kura-Araxes at around 3500/3400 BC and, as we have seen, the Martkopi-early Trialeti phase at 2500 BC. Despite the fuzziness that surrounds the genesis of the earliest wheeled vehicles, we do know that wheel technology, like most new ideas, spread rapidly. Within a relatively short time, communities across the Near East and Europe embraced this new invention, even though the ox-drawn sledge would still have been a common sight.

The Caucasian Evidence

It is convenient to deal with the evidence for Bronze Age Caucasian wheeled vehicles together, because the vehicles are structurally similar, and leave comments on the Late Bronze–Early Iron Age vehicles with spoke wheels for a later chapter. Three categories of evidence present themselves for wagons and carts: (a) actual vehicles, or some of their parts, preserved in waterlogged conditions; (b) clay models; (c) impressions in the soil where vehicles once stood, left after the wooden structures had perished. The earliest vehicles from the Caucasus were built completely of wood, apart from occasional metal fittings such as reign guides. Their wheels were solid discs assembled from three planks of wood held together with dowels set into mortise-holes that were gouged out with a metal chisel (Figure 7.24(3–4)). No block wheels carved from one plank of wood, similar to those found in Neolithic north-western Europe, have been recovered from the Caucasus.

To ensure structural strength, planks of wood were split lengthwise, and never cut across the grain of a tree trunk. Carpenters also chose relatively

¹⁴⁵ Chernykh 2011.

¹⁴⁶ Chernykh 2011: figs 13 and 14.

¹⁴⁷ Chernykh 2011: 159.

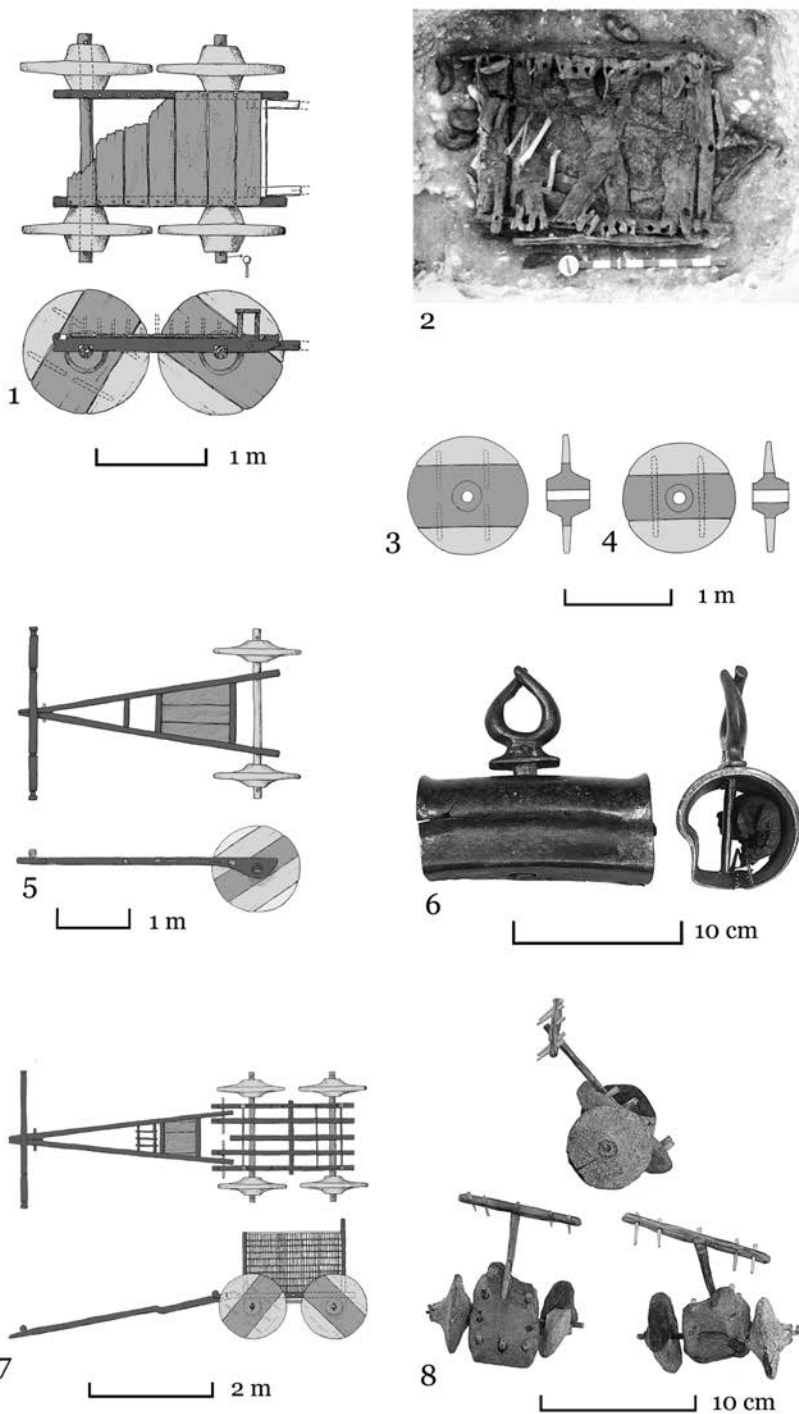


Figure 7.24. Wagons and carts: **(1)** Trialeti Barrow 5, wooden wagon; **(2)** Irganchai Barrow 1, top view of the wooden wagon; **(3-4)** Trialeti Barrows 5 and 29 tripartite disc wheels from showing mortise-holes; **(5)** Lchashen Barrow 2, wooden cart; **(6)** Berikldeebi Barrow 4, bronze reign ring mounted on a tube with wood remnants; **(7)** Lchashen Barrow 11, wooden wagon (after Piggott 1969; no. 2 photograph courtesy K. Kakhiani; nos. 6, 8 photographs A. Sagona).

young (thin) trees to construct a tripartite wheel. Not only would young trees have been more common, they would have required less effort to fell than established trees, especially hardwoods. At the centre of the wheel, in the middle of the central plank, is the raised hub around the axle hole. A lynch pin at the opposite ends of the axle prevented the wheel from slipping off. A pair of draught animals, usually oxen, harnessed by means of a yoke to a draught-pole, pulled the vehicles along; horse traction was used rarely for wagons and appears only in the mid-second millennium BC. Some vehicles had straight sides, usually constructed of wattle, or an arched cover (a tilt). Although the early ox-wagons were weighty and slow moving, their construction required exceptional carpentry skills and a considerable investment of time and energy.

The earliest evidence we have for wheeled vehicles in the southern Caucasus are isolated clay discs with a central swelling found in Kura-Araxes contexts. These, as well as horned animal figurines, some possibly representing oxen, are fairly ubiquitous across the Kura-Araxes province. It is likely that at least some of the discs represent the wheels of model vehicles and are not spindle whorls, which are generally domed and manufactured from bone. This suggests Kura-Araxes communities were aware of, or even used, wheeled vehicles as early as the second half of the fourth millennium BC. But that has yet to be proven, as has the idea that such vehicles facilitated the migration of communities across the highlands.¹⁴⁸ Early wheeled vehicles were heavy (up to 700 kg) and ponderous, and would not have been suited to long-distance travel over rocky and jagged mountainous terrain, often steeply sloped, that even modern four wheel drive vehicles struggle to cope with. A more appropriate mode of transport would have been pack animals and human portage. This is not to say, however, that wheeled vehicles were not used around settlements.

A clay model of an ox-cart was found at Arich in Armenia, but the clearest visual evidence of what the earliest vehicles looked like comes from a model from Pit I at Badaani.¹⁴⁹ The latter example was found in three pieces – two wheels and a body (Figure 7.24(8)). The swelling at the centre (the hub) of both discs leaves no doubt that the finds were wheels. The body of the cart has seven holes around the edge of the frame to accommodate upright poles that held side panels, probably constructed of wickerwork. A groove at the front for the draught-pole and a hole on either side for the axle leaves no question about the authenticity of vehicle, which is comparable to one found at Norşuntepe.¹⁵⁰ We have no radiocarbon dates for the Badaani settlement, but its ceramic vessels have early Trialeti traits (ca. 2500 BC). The bronze socketed axes with elongated blades support this dating, which resemble those from

¹⁴⁸ Greenberg 2014b.

¹⁴⁹ Khachatrian 1975: fig. 37 (Arich); Mirtskhulava 2011 (Badaani).

¹⁵⁰ Greenberg 2014b: fig. 3.

the Sachkhere tumuli. Scattered across the south Caucasus are single clay discs similar to the Badaani wheels that are datable to the Kura-Araxes complex.

Actual wheeled vehicles or their impressions have been found in about twenty tombs in the southern Caucasus belonging to the Early Bronze Age III period, mostly clustered in the central region of the southern Caucasus.¹⁵¹ Wagons or their parts have been found in fifteen tumuli: Bedeni (Barrows 5, 8, and 10), Berikldeebi (Barrow 1), Irganchai (Barrows 1, 2, and 9), Sadachlo (Barrow 4), Trialeti [Sabit Akhcha] (Barrow 5), Chikhistskali, Tsnori (Barrows 1 and 2), Zeiani, Utamish (Barrow 1), and Tqemlara (Barrow 4). Judging by the available published evidence, those from Bedeni, Ananauri 3, Tsnori, Trialeti, and Irganchai are particularly noteworthy.

The Trialeti [Sabit Akhcha] Barrow 5 wagon was built completely from spruce (Figure 7.24(1)). Its body measures about 2.4 m in length and is just wider than 2 m from the outer edges of the protruding axles, but its full length cannot be determined, because the A-shaped draught-pole and yoke had been removed to accommodate it in a pit grave of restricted size. Seven juxtaposed planks of wood formed the floor of the wagon. Its tripartite wheels were 1.25 m in diameter and fixed to a rigid axle, set in hubs larger than 40 cm wide. Around its frame, simple volutes and carved animal heads added a touch of decorativeness. Circular mortise-holes along its length would have supported a superstructure – whether an arch tilt or straight wickerwork sides is impossible to say. Nearby, at Trialeti Barrow 29, Kuftin found four wheels (Figure 7.24(4)) and their axles in situ in a pit grave. The wheels were built of oak planks and the boxwood dowels ran completely through the mortise-holes in the middle plank.

The pair of Ananauri 3 wagons was almost identical, differing from each other only in some details (Figure 7.7). Their bodies were oak-built and both were ornamented along their backs. The 3.5 m draught poles were placed on both wagons, while the axles were positioned beneath them. Pegs up to 4 cm in length fixed in place the sides of the wagon body, which appear to have been lined with leather. Each wheel (1.4 m in diameter) consisted of three planks of

¹⁵¹ Excavation results are, for the most part, in the form of short notices or preliminary reports, which have little in the way of detail on wheeled vehicles. Some of the details from Sagona 2013 are repeated here: Pitschelauri and Varazashvili 1988 (Zeiani, Barrow 1); Varazashvili and Kachkachuri 1987 (Chikhistskali); Gogelia and Chelidze 1985 (Sadachlo, Barrow 4); Dedabrishvili 1979 (Tsnori, Barrows 1 and 2); Gobedzhishvili 1980 (Bedeni, Barrows 5, 8, and 10); Gagoshidze et al. 1986 (Berikldeebi, Barrow 1); Kotovich et al. 1980 (Utamish, Barrow 1); Dzhaparidze et al. 1984 (Akhchia, Barrow 3); Kakhiani et al. 1991, Kakhiani et al. 1995, Kakhiani and Ghlighvashvili 2008 (Irganchai, Barrows 1, 2, and 9); Areshian 1986 (Maisian, Barrow 7); Gogelia and Chelidze 1997 (Sarachlo, Barrow 1); Pizchelauri and Orthmann 1992 (Tetri Kvebi 1); Mansfeld 1996 (Tqisbolo Gora); Zhorzhikashvili and Gogadze 1974 (Trialeti Barrow XXIX); Dzhaparidze 1960 (Trialeti [Sabit Akhcha] Barrow 5); Shatberashvili et al. 2010 (Tqemlara Barrow 4); Makharadze and Murvanidze 2014a (Ananauri 3).

solid wood connected to one another by hidden cleats set into mortise-holes. Each of the eight wheels was secured to the axle with a metal disc-headed rod.

Similar Middle Bronze Age wagons and burial practices were observed elsewhere, including at Irganchai Barrow 1 (Figure 7.24(2)).¹⁵² Fragments of a wagon, including remnants of a leather cover, were found at Tqisbolo Gora, where the weight of the vehicle also left impressions on the earthen floor of the tomb, as well as at Tetri Kvebi Barrow 1. Wagon burials were not gender specific, as Utamish Barrow 1, in Dagestan, has shown. The burial chamber there contained a funerary four-wheeled vehicle that bore the remains of a woman who had been laid to rest on her back with her knees pulled up.

Late Bronze Age Vehicles

In the Late Bronze Age (1600/1500–1000 BC), wagons and carts continued to be built, in some cases elaborately decorated with low-relief wood carvings. Their usefulness, however, was coming to an end. By the early Iron Age, lighter, spoke-wheeled chariots surpassed the ponderous wagons technologically, and horses replaced oxen as draught animals.¹⁵³ Technological transfer, and with it symbolism and prestige, shifted from wagons to chariots. Even so, wooden vehicles continued to be made. At Lchashen, on the shores of Lake Sevan, the richest barrow cemetery of the second half of the second millennium BC, vehicle remains in eight tombs represent one of the greatest concentrations anywhere. The complexity of carpentry displayed by some of the wagons is astonishing. A variety of wood was carefully chosen to match the specific requirements of the wagon part.¹⁵⁴ Oak, for instance, was used for the axle and draught-poles of the wagon in Barrow 11, and elm was crafted for its wheels, whereas the flexibility of yew suited the construction of the framework and arched tilt. The excavator, Mnatsakanian, calculated that the wagon comprised no less than seventy separate parts, which required some 12,000 differently sized mortise-holes.¹⁵⁵

Carts found in Barrows 2, 6, 8, and 10, conformed to a standard type: an A-framed body with a trapezoidal floor and two wheels attached to an axle (Figure 7.24(5)). A long dowel and rope secured the yoke at the tip of the

¹⁵² A calibrated radiocarbon date (Tb-467) provided a reading of 1932–1749 cal. BC for Irganchai Barrow 2, and 1872–1679 cal. BC (Tb-496) for Irganchai Barrow 9 (Sagona 2013).

¹⁵³ For excavation results see: Koridze 1995 (Berikldeebi, Barrow 4); Gummel 1992 (Khanlar, Tomb 150); Pitschelaui et al. 1984 (Tsitschihuri); Petrosian 1989 (Keti, Tomb 21); Mnatsakanian 1957, 1960, 1961, 1965 (Lchashen, Barrows 1, 2, 3, 6, 8, 9, 10, and 11); Devedzhian 1981 (Lori Berd, Tomb 7); Gagoshidze et al. 1986 (Doilauri); Dedabrishvili 1979: 17 (Novaiia Ul'ianovka, Barrow 2); Gogelia et al. 1991 (Pachralo, Barrow 1).

¹⁵⁴ The conservator, Rumyantsev (1961), provided the details of woods and manufacture.

¹⁵⁵ Mnatsakanian 1957.

A-frame. These carts are significant for two reasons. First, their form makes it conceivable that their origin is the sledge, pulled along by a pair of draught animals. Second, the four-wheeled wagon is essentially a rectangular body with an A-frame attached to the front. This implies that the cart was an earlier innovation than the wagon, assuming that the cart developed from the sledge.

Wagons from Lchashen are substantial structures. The dismantled example from Lchashen Barrow 1 would have extended 5 m: a body (1.5 m) and a draught-pole (3.5 m). The superstructure of these wagons comprised either straight wickerwork sides and back, or a tilt (Figure 7.24(7)). In form and construction they are essentially the same as the wagons from Trialeti, except that the floor had extra supports. Animal skulls were a feature: two cattle skulls were ceremonially placed beneath the body together with numerous objects in Barrow 1, and two cattle skulls and a horse skull were placed beneath the wagon in Barrow 2, which also contained two carts. Parts of a similar cart, bar the wheels, were uncovered at Sapar Kharaba in the Trialeti region of Georgia.¹⁵⁶ Interestingly, in contrast to other burials with animal remains, the Sapar Kharaba burial had two lamb skeletons, one placed on its right side, the other on its left. The pair lay beneath ceramic vessels, and an obsidian tool was found between the forelegs of one of the lambs. Finally, there is Late Bronze Age Berikldeebi Barrow 4 (ca. 1400–1300 BC), which contained two individuals – a 30-year-old male and, at his feet, a 16–25-year-old female – in a 3-m deep earthen shaft (9 x 4.5 m across the length and width). Around the tomb, scattered amongst the grave goods, were numerous animal bones, including two horse skeletons, each with a bronze bit. Only fragments of the wooden wagon survived, but several metal fittings were well preserved, including a bronze reign ring mounted on a tube (which still bears fragments of the wooden frame inside, Figure 7.24(6)). It is a vertical guide surmounted by a deer figurine, and a bird figurine perched on the openwork tube.

Burials and Animal Remains

Not as eye-catching as the conspicuous wealth these tumulus-burials harboured, but no less significant, were the skulls and the severed forelegs of oxen (and later of horses). It appears that the skin of the sacrificed animal with extremities attached was laid out in the burial. At Sarachlo Barrow 1, the next of kin had a niche in which to place skull fragments and hoofs.

No other bones were deposited. This custom was widespread throughout the steppes of Eurasia from as early as the fourth millennium BC, and continued to play a role in funerary rites in central and northern Europe up to the medieval period (ca. eleventh century AD).¹⁵⁷ Amongst the better-known

¹⁵⁶ Narimanishvili 2010: 324–6.

¹⁵⁷ Piggott 1962.

examples of these ox-hide offerings are those from Alaca Höyük, whose tombs most likely also contained carts.¹⁵⁸

Related to ox-hide offerings are the later funerary rites involving horses. Their skulls and hoofs, as well as figurines carved out of bone, have been found in fourth millennium BC deposits across the steppes.¹⁵⁹ The quantity, context, and pattern of evidence point to the crucial, if not sacred, role of the horse amongst these prehistoric communities. Moreover, it appears to have been an enduring tradition. The evocative description in Herodotus (4.71–72) of the funeral of Scythian kings, which has been used often as a point of comparison with the archaeological evidence, is worth quoting:

... and fifty of the finest horses; they open and clean out their [horses'] bellies and stuff them with chaff before they sew them up again. Then they fix half the felloe of a wheel on two posts with the ends uppermost, and the other half on another pair of posts, and so they go on fixing many more; having done that they drive thick stakes lengthwise into the horses' bodies as far as the necks and rest them on wooden supports so that the forequarters of the horses are supported under the shoulders and their hindquarters under the bellies and the fore and hind legs in the air. (4.72, trans. Carter 1962)

Beyond Herodotus, horse sacrifices in which the skin was hung up on a pole after the flesh was eaten, continued up to recent times amongst certain communities of the Altai and Lake Baikal.¹⁶⁰ In the belief systems of the Mongol Buryat from Siberia, for instance, shamans metaphorically travelled to heaven on a horse, symbolically represented during annual ceremonies by a skinned horse, which was raised towards the sky on a pole.¹⁶¹ Whether the late prehistoric funerary rites from the Caucasus involved shamanic practices remains to be seen.

THE MIDDLE BRONZE AGE III (CA. 1700–1450 BC)

Around 1700 BC, southern Caucasia began to fragment into regional territories characterised by a series of distinct ceramic horizons that overlap in time, but whose chronological parameters or significance are far from clear. There are four ceramic horizons: Karmirberd (Tazakend); Sevan-Uzerlik 2; Kizyl Vank; and Trialeti-Vanadzor III. These horizons have been most precisely articulated in Armenia, though they are also found in Nakhichevan, eastern Anatolia and north-west Iran (Figure 7.25(B)).¹⁶² The reason for this territoriality and cultural segmentation is unclear, though an escalation in political tensions may be part of the reason.

¹⁵⁸ Orthmann 1967; Sagona and Zimansky 2009: 216.

¹⁵⁹ Anthony and Brown 2003.

¹⁶⁰ Piggott 1962.

¹⁶¹ Chadwick 1942: 75–6.

¹⁶² Kushnareva 1983; 1997: 114–49; Özfirat 2001, 2008; Smith et al. 2009: 66–8.

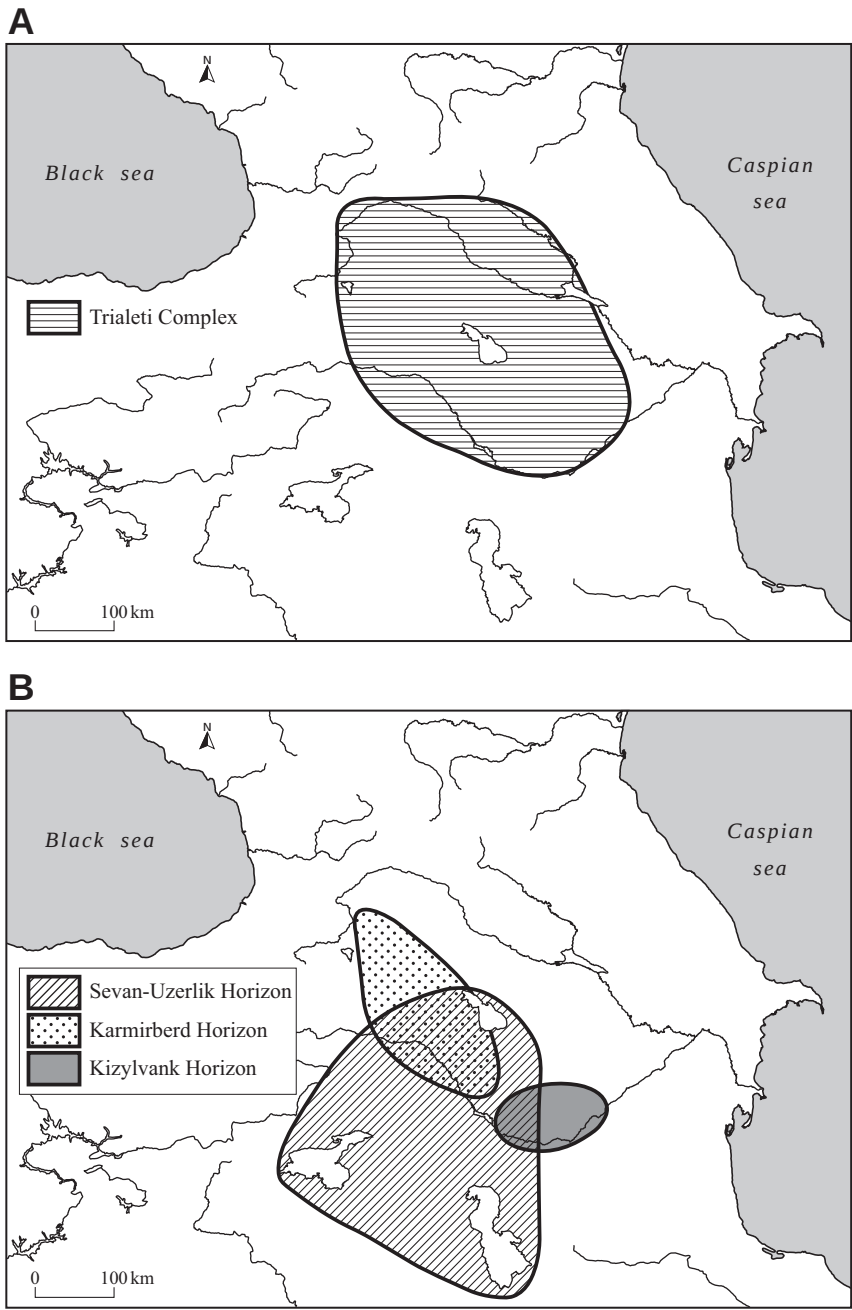


Figure 7.25. Map showing the broad distributions of material culture: **(A)** the Trialeti-Vanadzor horizon; **(B)** the Karmirberd (Tazakend), Sevan-Uzerlik and Kizyl Vank horizons (after Kushnareva 1997; drawn by C. Jayasuriya).

The Karmirberd (Tazakend) Horizon

This tradition is contained within the north Armenian highlands, especially the foothills in the Ararat Plain, and is defined largely, but not exclusively, by a bold painted pottery assemblage (Figure 7.26(1–7)). Known as the Karmirberd culture (formerly Tazakend), it came to light in the late 1800s through investigations at the cemetery near the village of Tazakend, not far from the fort of Karmirberd, located within the environs of Yerevan.¹⁶³ Since then, similar pottery has been found at many sites in the Araxes Valley west of Lake Sevan, on the Shirak Plain and on the slopes of Mt Aragats.

Most of the evidence derives from large cemeteries, chief amongst them Verin-Naver, Arich, Elar, Kamo (Nor-Bayazet), and Lchashen, augmented by a large quantity of chance finds from a scatter of locations (Figure 7.1).¹⁶⁴ Karmirberd ceramics have a red fabric and are wheel made. Their predominant forms are jars with rounded bodies and short cylindrical necks, squat pots, deep wide-mouthed bowls, and cups. They are painted with motifs, executed in black paint or occasionally in bichrome (black and red), which differ markedly from the designs that ornament Trialeti painted wares. Karimberd potters were fond of metopes, juxtaposed in friezes across the upper body and filled with net patterns, nested zigzags, ‘butterfly’ designs, and chequered patterns amongst other designs. Occasionally a fringe of volutes hangs from the lowest frieze.

These vessels comprised the main grave goods, sometimes the only inventory, in burials that are consistently individual inhumations. Men were placed on their right sides, women on their left, in a flexed position with head pointing north. Before interment, the individual in Barrow 9 at Verin-Naver was wrapped in textile and then covered with clay mortar.¹⁶⁵ Tomb architecture conformed to a uniform plan as well: a rectangular grave-pit (averaging about 1.8 x 0.7 x 1.0 m), dug into the earth or hewn out of tufa and aligned along the north–south axis. The pit was roofed with large slabs of tufa and then sealed under a small mound of stone and earth (cromlechs).

Although the painted ceramics are the distinguishing feature of this archaeological culture, they were also accompanied in certain tombs by black polished and coarse kitchen wares. Rarely, the inventory also featured bronze metalwork (daggers and ornaments), stone artefacts, beads, and shells. Black polished vessels are similar in shape to the painted wares and they are ornamented in two ways. Based on typological analysis of grave assemblages, earlier wares are incised with patterns such as pendant triangles, whereas later wares were decorated with punctate designs, produced with a comb or roulette. These latter

¹⁶³ Kushnareva 1960.

¹⁶⁴ Simonian 1983, 1984; Kushnareva 1997: 114–28.

¹⁶⁵ Simonian 1984.

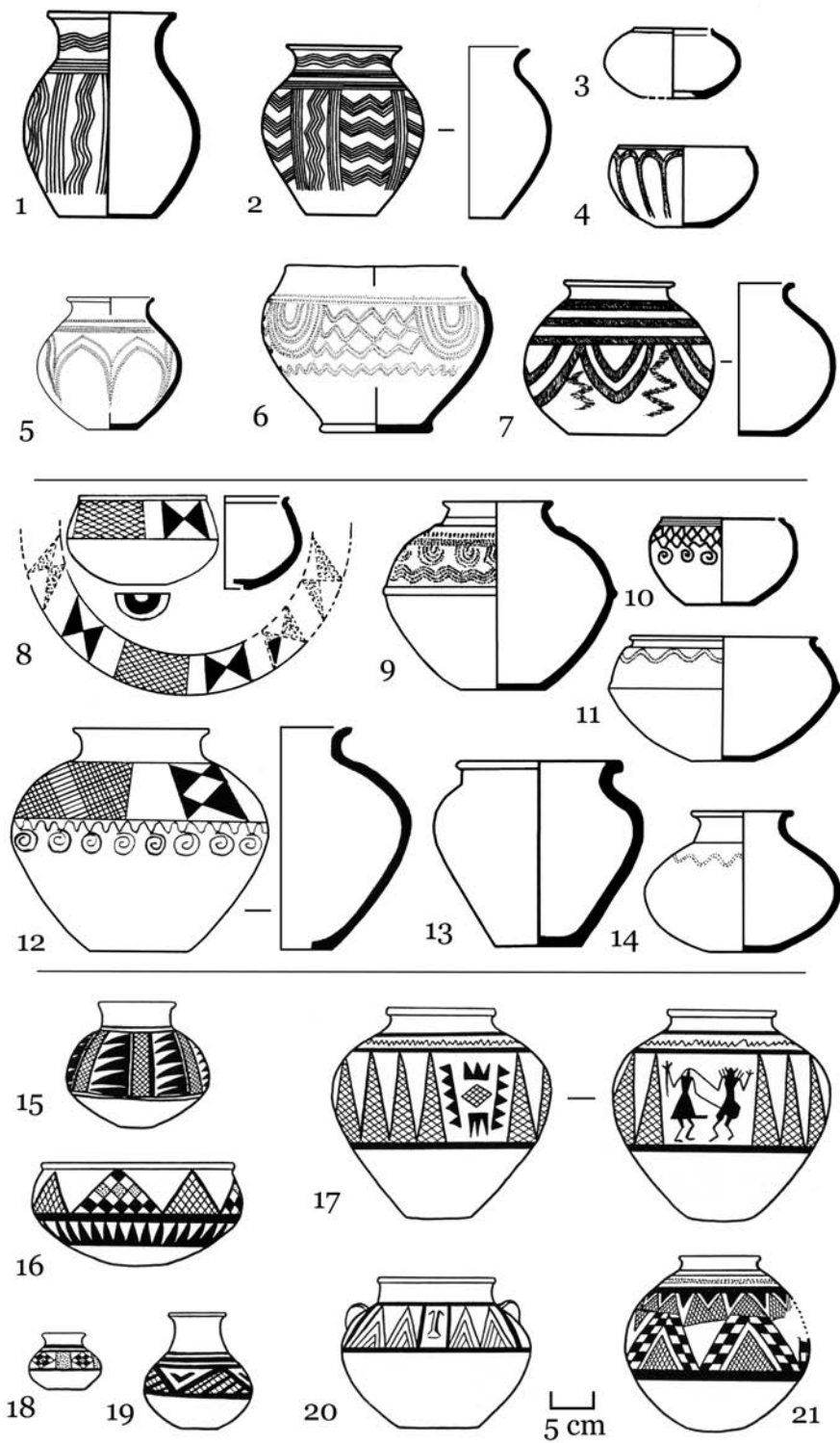


Figure 7.26. (1–7) Karmirberd (Tazakend) pottery; (8–14) Sevan-Uzerlik pottery; (15–21) Kizyl Vank pottery (after Badalyan et al. 2009).

patterns included wavy lines, festoons hanging from the neck and a running band of fret (or key pattern).

Sevan-Uzerlik Horizon

Sevan-Uzerlik is a term that draws attention to the localisation of burials around Lake Sevan and the important settlement site of Uzerlik Tepe in the Mil steppe. Of the sites, only a few have been systematically investigated, and chief amongst them is Uzerlik Tepe, a village of three stratified building horizons defined by Karin Kushnareva in the 1950s.¹⁶⁶ The earliest deposits, Level I, were mostly characterised by numerous pits, serving a variety of functions, and a sub-rectangular wattle-and-daub house, supported on a framework of thick posts and roofed with wooden slabs. The house had a beaten clay floor, originally covered with reed matting, and a hearth within and around which was a portable clay oven, stone pestles, grinders, and remnants of metalworking, including a clay crucible and slag. Later in the history of the village, as revealed by Level II, the community built a massive curved defensive wall. Made of large mud-brick slabs, and measuring 3 m across its width, the wall enclosed the entire settlement, which did not reveal any architectural changes. By the end of this period, Level III, the wall fell into disuse, and in the upper horizon the community shifted their activities to the north part of the settlement. Although poorly preserved, these upper deposits clearly had fewer pits and some large areas of floor surfaces. Lori Berd is another important settlement, also fortified with a massive wall, 7 m thick in parts.¹⁶⁷ One house, sub-rectangular in plan, was very large, measuring 26 m along its south-eastern wall and partitioned into four rooms.

Like studies on the Karmirberd tradition, literature on the Sevan-Uzerlik reveals that pottery categorisation bulks large in research. Aspects of the Sevan-Uzerlik repertoire clearly reflect Karmirberd traits, but they also show novel characteristics as regards form and decoration. Three ware types have been recognised at Uzerlik Tepe, which, in order of quantity excavated, are as follows: kitchenware, black polished, and painted (Figure 7.26(8–14)). Coarse kitchenware, according to Kushnareva, remained the same through the sequence, whereas black polished pottery evolved largely in terms of ornamentation and surface treatment, which improved in the upper levels. Round pots and deep bowls, the main forms, show a development from incised to comb-stamped motifs.

The earlier incised patterns (Level I) were haphazardly executed and included horizontal rows of herringbone and zigzags. With the introduction of comb stamping, in Level II, potters were more careful in the application of

¹⁶⁶ Kushnareva 1959, 1965, 1994.

¹⁶⁷ Devedzhian 1981; Devedjian 2006.

ornaments, which often covered the entire body. Bold patterns of concentric festoons, arched bands and rows of horizontal zigzags make for a lively repertoire. Incised and comb-stamped pottery found in tombs often had their ornaments filled with a white paste for added contrast. Even more eye-catching is the painted pottery of tall jars and deep bowls, which were also introduced in small numbers in Level II. Slipped in red or occasionally cream, these vessels were decorated with conspicuous and freely applied patterns, especially hatched rows of rhombs.

The ceramic assemblages from tombs are generally similar to those from Uzerlik Tepe. All three wares were deposited with the deceased except at Arich, where painted wares were absent. Regional variations in decorative style are also noticeable, with the arched motif missing from sites in the Shirak area. Tombs comprised rectangular grave-pits; unlike the Karmirberd group, these had rounded corners and were orientated east–west.¹⁶⁸ The pits were covered with planks and concealed by a mound. Arich Barrow 44 was conspicuous for its large mound, the absence of a skeleton and evidence of a fire. Although pottery dominates the grave offerings, other objects – bronze metalwork (daggers, spearheads, and needles), stone projectile points with a narrow concave base, beads – were included in the assemblage in the developed phase of the Arich cemetery. Of particular note is a black polished cup with a pair of up-swung handles found in Arich Barrow 65. It is part of a group scattered across the Caucasus that are redolent of cups from the Middle Bronze Age of western Anatolia.¹⁶⁹

The Kizyl Vank Horizon

The geographical focus of this cultural horizon is the Nakhichevan Republic, and it is named after the site where it was first discovered: the Armenian monastery of Karmir Vank, known in Azerbaijani as Kizil Vank. Nearby, the Middle Bronze Age deposits of Kültepe I are likewise important.¹⁷⁰ The distinguishing feature of this horizon is boldly painted pottery – often decorated in monochrome, occasionally in polychrome, but always striking to the eye (Figure 7.26(15–21)). Beyond the Nakhichevan heartland, Kizil Vank ceramics are spread across southern Caucasia, eastern Anatolia, and northern Iran. But again our understanding of the internal development of this culture is limited, owing to the lack of detailed and trustworthy stratified sequences in the south Caucasus. Indeed, it is north-western Iran and the sites of Haftavan Tepe and Geoy Tepe that have helped to fashion a framework.

¹⁶⁸ Kushnareva 1997: 129–44.

¹⁶⁹ Abramishvili 2010.

¹⁷⁰ Kushnareva 1997: 144–9.

In the south Caucasus, the settlement sites of Kültepe I, Kültepe II, and Shor Tepe are significant. The high mound of Kültepe I yielded Kizil Vank material in Level III, its Middle Bronze Age, which was up to 3 m deep. Excavations were limited, however, and no coherent settlement plan is available other than to say that houses were built of mud brick, rectangular in plan and stone paved. Of the three building levels discerned by the excavators, monochrome painted pottery appeared in the second level and polychrome painted vessels were encountered in the uppermost level. The most striking feature at Kültepe II is a massive stone wall with a mud-brick superstructure that was preserved to a height of 10 m. A cobblestone pathway was flanked on either side by rectangular buildings, which contained a concentration of stone and metalworking tools, suggesting a craft area.

Cemeteries are no more informative, with few having undergone systematic investigations. Even so, it seems that tomb architecture varied. Many of the tombs at Kizil Vank have been plundered, but what information could be retrieved indicates that the dead were buried in stone cist tombs. A better idea is gained from Period D at Geoy Tepe located on the western shore of Lake Urmia. The cemetery accompanying the settlement was comprised of stone cist tombs, lined and roofed with limestone slabs, and sometimes paved with flagstones. These tombs were the repository of collective inhumations, with Tomb A containing six individuals.

Ceramic containers are made by hand, though there is some indication that the slow wheel was also used. Vessels come in a range of forms and sizes, but the most common are round-bodied pots, high-shouldered jars and deep bowls. Their fabric and slip are red, and their designs are executed in black or red. A wide range of patterns is boldly executed and repeated in a wide frieze across the upper part of the vessel. Motifs include elongated triangles (solid and hatched), hatched panels, chequerboard, and elegant figurative representations – birds, humans with upraised arms, quadrupeds, snakes, and sprigs. Similar pottery was found at Haftavan Tepe, where Period VIB (1900–1700 BC) revealed a rectangular mud-brick structure. Further south is Geoy Tepe, where excavators exposed similar structures and attributed them to Period D; evidence of wattle-and-daub buildings was also found.¹⁷¹ Haftavan potters were not averse to lightly polishing their products and employing bichromy – a combination of black and red.

Apsheron Peninsula

A distinctive type of early-second-millennium burial is located in the Apsheron Peninsula in Azerbaijan. It consists of a small rectangular or oval-shaped stone chamber encased by a circular stone platform up to four courses high; the gaps

¹⁷¹ Edwards 1981, 1983; Burton-Brown 1951.

between the stones were filled with earth.¹⁷² The stone structures were 3 to 10.5 m in length and they were centrally placed within a low barrow that rose no more than 1.5 m above the plain and ranged from 6 m to 20 m in diameter. On the circumference of one platform was a stone stela, depicting a human form – the lower part of a face, a pair of arms, and a loincloth. The dead were placed on either their left or their right side, in a tightly flexed position with no particular orientation. According to the excavators, the ceramics show north Caucasian affinities.

THE NORTHERN CAUCASUS

The North Caucasian Culture

Rectangular pit graves situated beneath a barrow of earth or stone are widespread throughout the northern Caucasus. The best evidence comes from the cemetery of Stanica Suvorovskaia, in the middle Kuban basin, where pits averaged about 2 m in length and 1 m in width, though significantly smaller ones were also found.¹⁷³ Most were single inhumations, with the dead invariably placed on their backs in an extended position, sometimes on a reed litter (as suggested by soil discolouration), with their heads pointing in any number of directions except east. Children were accorded the same funerary rites as adults, and were occasionally buried with them. Pit graves have also been found at Ust' Dshegutinsk Barrow 23 (grave 3), Gatyn Kale Barrows 33 and 35, Chirkei Barrow 4, and at Miatli. These barrows, especially the one from Ust'Dshegutinskü, are on the whole larger than those from Stanica Suvorovskaia, but in every other respect they belong to the same funerary tradition.

Variants on the rectangular pit graves have a round, oval, or irregular plan. Like the rectangular graves, these too were common, but why they had the different outline – whether it was intentional, the result of carelessness, or even perhaps done for taphonomic reasons – is unclear.¹⁷⁴ These variant rectangular pit graves are attested at Cholodnorodnikovsk, near Stanica Suvorovskaia, in a cluster in the central northern Caucasus – Kishpek Barrow 3 (grave 4), Kyzburun III (grave 4), and Lechinkai Barrow 7 (grave 4) – and further east in Dagestan, with several at Miatli.

Pit graves were also stepped – a smaller pit within a larger pit – to reach greater depths and to seal the tomb more effectively.¹⁷⁵ The lowest pit averaged about 2 x 1 m across the edge and was about 1 m deep. This construction promoted conditions that were good for preservation. At Stanica Suvorovskaia,

¹⁷² Bertram 2003: 83.

¹⁷³ Nechitailo 1979. Bertram 2003: tables 2 and 3 for a list of the relevant Middle Bronze Age tombs.

¹⁷⁴ Bertram 2003: map 4.

¹⁷⁵ Bertram 2003: table 8.

for instance, Barrow 11 (grave 11) had a reed litter covering the skeleton in the lowest pit and the litter, in turn, was sealed with oak logs. Stones were also used as reinforcements, and occasionally as capstones (Barrows 5 and 17).¹⁷⁶ Variations of this mode of construction were also found in Barrows 7 (grave 2), 13 (grave 9), 16 (grave 5), and 5 (graves 2 and 7), which used timber to roof the lower pit. As for the standard pit graves, skeletons were found in the supine position or, rarely, on their sides or with knees drawn up.

Red ochre was very much part of the north Caucasian funerary rite. It was sprinkled liberally on the corpse, or concentrated on individual parts, especially the feet, legs, and skull. The deceased were mostly aligned north–south, and the great majority were single burials. Barrow 17 (grave 15) at Stanica Suvorovskaia is unusual in having two anatomically articulated skeletons, a male and a female.¹⁷⁷ Barrows with no grave-pits are relatively rare in the northern Caucasus, with the stone barrow at Masuk being an exception: a skeleton was found extended on its back within a stone-lined area, head pointing to the west.¹⁷⁸

CATACOMB TOMBS

We encounter a different concept of burial with the catacomb tombs, which were prevalent in the northern Caucasus, especially in the lower Kuban region.¹⁷⁹ Far fewer catacomb tombs have been recorded in the southern Caucasus, where, by comparison, they were not as well developed and mostly dated to the Middle Bronze Age. Catacomb tombs basically comprise a shaft and chamber connected to each other through a porthole and a ramp. They display variations in plan, which Trifonov has studied in detail (Figure 7.27).¹⁸⁰ The most common and earliest type has a trapezoidal or rectangular shaft that led to chamber of similar plan; occasionally the burial chamber was oval-shaped. Shafts were up to 2.7 m in length and 1.5 m in width, though many had smaller dimensions. Some shafts were quite shallow, no more than 1 m in depth, whereas others reach depths of 6.5 m. The access hole to the chamber varied in shape – round, oval, semi-circular, or arc-shaped – and the size was quite restrictive. At times the hole was no more than 40 cm high, suggesting that the placement of the deceased must have required some manoeuvring. Skeletons were generally found facing the entrance in a tightly flexed position with arms stretched along their sides or with hands on their knees; occasionally the dead were placed on their backs. Skeletons, especially those of children, were sprinkled liberally with red ochre, and were found in a matrix that contained charcoal, chalk and animal bones.

¹⁷⁶ Nechitailo 1979.

¹⁷⁷ Nechitailo 1979: 80.

¹⁷⁸ Korenevskii 1990: 30–31. Bertram 2003: 30.

¹⁷⁹ Bertram 2003: map 9.

¹⁸⁰ Trifonov 1991.

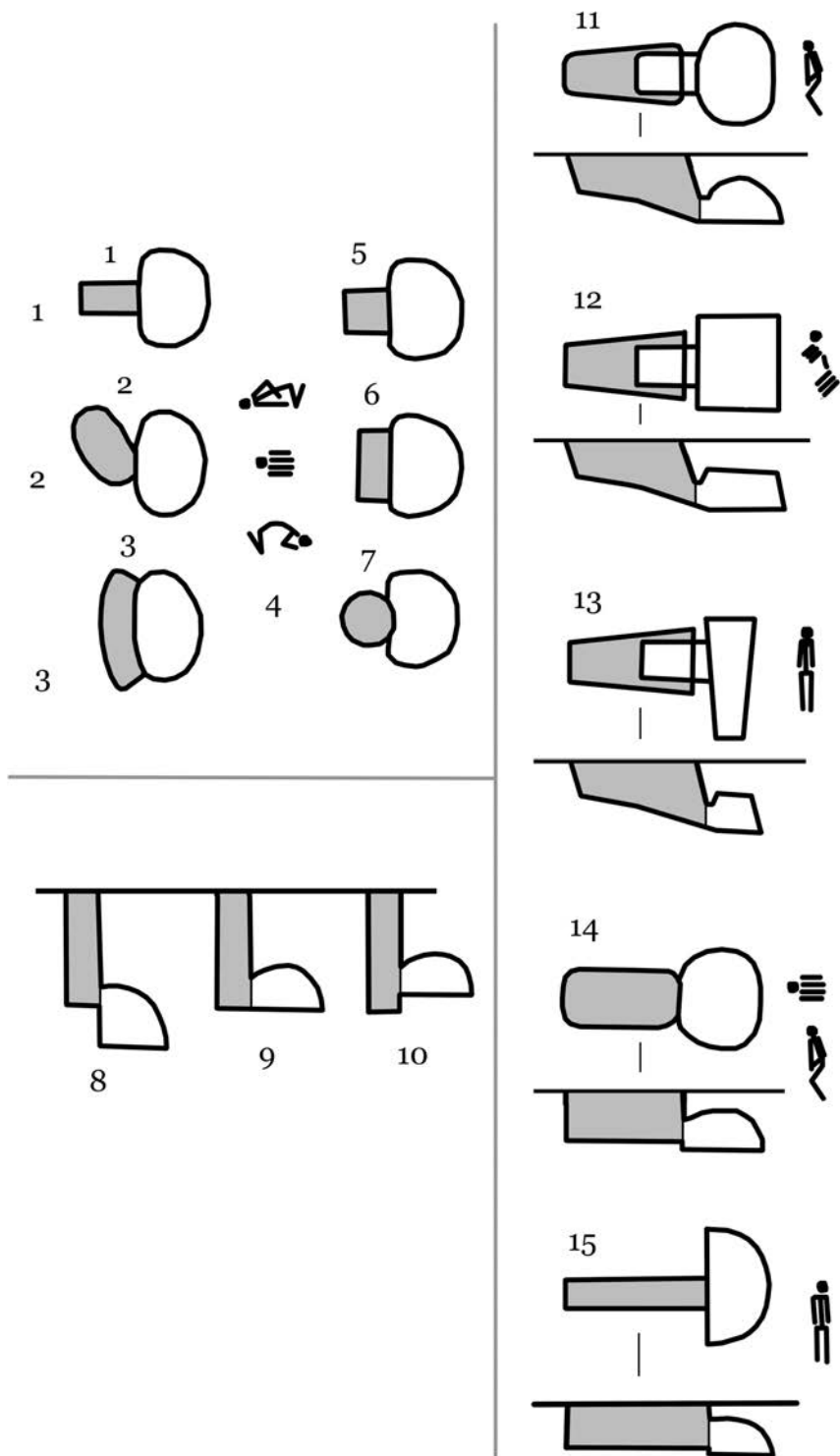


Figure 7.27. North Caucasian culture, schematic plans of tomb types: (1-7) top views and position of human remains; (8-10) cross-sections of shafts and chambers; (11-16) top views of developed forms, and position of human remains (after Trifonov 1991).

The second type in Trifonov's classification has a rectangular shaft with rounded corners and an oval-shaped chamber. The deceased was again found in a flexed position, though some chambers had disarticulated skeletons whose hand and foot bones received special attention through their parallel alignment near the pelvis or chest area. Another type (Trifonov's third) approximates a bean-shape in plan. The shaft varies in shape from rectangular through round to curved, and can reach a depth of up to 12 m. There is no ramp connecting the shaft to the chamber, now generally semi-circular in plan with a vaulted ceiling. More often than not, the floor of the chamber was lower than that of the shaft, by about 1 m. In such cases, a few steps from the shaft led down to it. In most catacomb-type tombs, access to the chamber was sealed with wood. Skeletons were generally found on their right sides in a flexed position; the skull and feet, and occasionally the hands and chest, were stained with red ochre. Chunks of charcoal were also fairly common, in both the shaft and the chamber, suggesting some type of burial ritual. Some of the catacombs also had disarticulated skeletons. In these cases, the long bones were placed parallel to each other either on the rib cage or on the pelvis. The last of Trifonov's catacomb types has a long and narrow shaft, which abutted a semi-circular chamber. Skeletons in these tombs were extended on their backs.

The greatest concentration of catacomb tombs is found at Stanica Suvorovskaia, in the lower Kuban, with fewer tombs attested at the cemeteries of Cholodnorodnikovsk and Ust' Dshegutinsk.¹⁸¹ In the Kabardino-Balkaria region, catacomb graves have been found at Siltrak and Kishpek. The example from Siltrak is unusual for the three chambers connected to the shaft. Collectively they housed six skeletons, all lying extended on their backs.¹⁸² In Dagestan, two cemeteries (Velikent I–III and Manas) have attested catacomb tombs, some with substantial chambers, up to 6 m in diameter. These were collective cemeteries – Velikent I, Tomb 68 had forty-eight skulls – and they were used over a long period of time, dating to the Early and Middle Bronze Ages.¹⁸³ It seems, too, that children were accorded their own resting place, as is shown by Tomb 12.

STONE CIST TOMBS

The northern Caucasus is also the homeland of rectangular stone cist tombs. In the southern Caucasus they became popular during the Late Bronze Age and Early Iron Age, and occur very rarely during the Middle Bronze Age.¹⁸⁴ In the earlier millennium, however, they are widespread in Dagestan: at Bel'ty,

¹⁸¹ Nechitailo 1979.

¹⁸² Batchaev 1984.

¹⁸³ Gadzhiev et al. 1995, 1996, 1997, 2000.

¹⁸⁴ Apart from a single example at Mtskheta (Tomb 159), they are found in Armenia, Bertram 2003: 86, map 20.

Miatli and Gental.¹⁸⁵ Aligned mostly along the north-west–south-east axis, the walls of these cist tombs were built using the dry-stone technique, often combining large and small stones. They measured 3.4 m and 1.15 m in length and 1.6 m and 0.85 m across the width. Cist tombs were used for both individual and collective interments. While the individual burials were mostly flexed, placed on either side, in the collective tombs bones were scattered, making it difficult to estimate the number of individuals. But it seems clear from a skull count that Bel'ty Tomb 18 had at least fourteen burials and Gatyn Tomb 7 had twelve.

Round and oval-shaped stone-built tombs are also found in the north-east Caucasus, in Dagestan. The cemetery at Ginchi has yielded the most, fifteen such tombs in all, with other examples found at Choch, Galgalatli, and Gatyn Kale.¹⁸⁶ Their occurrence at Metsamor (Tombs 73 and 79) and Kobala (Tomb 25) are amongst the rare instances in the southern Caucasus. Most of the Ginchi tombs are round and they range in diameter from 1.4 m to 2.5 m. Their walls are preserved to a height of no more than 1.7 m.¹⁸⁷ The walls were built of large, flat stones laid horizontally with a fill of smaller stones; floors had a beaten clay surface. Niches in the walls most likely accommodated wooden beams for reinforcement. Apart from two children's graves, each of which contained a single skeleton, these tombs were invariably used for collective burials. The minimum number of individuals was often difficult to determine owing to the fragmented and scattered nature of the bones. Moreover, it appears that bones from previous interments were often removed to create space for new interments in what were relatively small tombs. As many as fifty individuals were buried in Ginchi Tomb 5, and thirty-four were laid to rest in Ginchi Tomb 2. Most other tombs, however, contained far fewer burials. In the few instances where the skeletons were undisturbed, it seems that the dead were laid to rest in a flexed position or stretched out on their backs.

WOODEN GRAVES

Tomb chambers were also built entirely from wood. One type was freestanding and set into a deep pit. Two survived in Utamish Barrows 1 and 3 in Dagestan. Both barrows were constructed of split logs, with smooth surfaces facing the interior of the chamber.¹⁸⁸ Considerable woodworking skill and craftsmanship went into the construction of these wooden tombs. The planks of Grave 16's chamber, within Konstantinovka Barrow 2, were fitted together using the tongue-and-groove technique.¹⁸⁹ Four wide and well-split planks (1.5 x 0.75 x 0.15 m) cover the chamber, which contained the skeleton of a 40–50-year-old

¹⁸⁵ Bertram 2003: 67, maps 13–14.

¹⁸⁶ Bertram 2003: map 18.

¹⁸⁷ Gadzhiev 1969.

¹⁸⁸ Kotovich et al. 1980.

¹⁸⁹ Markovin 1999: 150.

male, whose knees were originally pulled up. Another type of north Caucasian wooden chamber is a wood-lined pit. Examples of this type have been found at Kyzburun III Barrow 3, Chorocholi Barrow 22, and Tli Grave 244, amongst other sites.¹⁹⁰

CONCLUSIONS

The millennium or so that we have just reviewed represented a period of great social change. Elaborately furnished burials, many containing novel technological items, reflected the formation of ranked societies. A fully sedentary life-style gave way to one that embraced mobility to a much larger extent, though villagers continued to till the land and practise a diverse horticulture. Situated on the fringe of the emerging city-states of Syro-Mesopotamia, Caucasian communities played an important role in stimulating the inter-regional flow of luxury items.

Although the Caucasus did not engender the trappings of centralised bureaucracy – there were no monumental buildings or systems of accountability – the region nonetheless developed its own expression of power and authority. Monumentality and ritual were essential elements of the cultural rhetoric of the Caucasus, too, but the focal points were barrows and burials, not buildings. The family of the deceased would reinforce its social bearing with the construction of conspicuous and showy tumuli that entombed important persons and their wealth. It seems that in the late prehistoric Caucasus, success was measured by the quantities of desirable materials and objects available for the family's disposal. Wheeled vehicles and metalwork were high on their wish lists, and were elevated to symbols of power and wealth. The funerary assemblage could be quite extensive, also including more common goods such as ceramics and stone objects, but it appears that items reflecting the latest technology, such as wagons and carts, or manufactured from rare substances, such as gold, were accorded the greatest value.

The Caucasus was not simply a consumer of luxury items, but also a hub of innovative and sophisticated metallurgy. Craftsmen were in demand by leaders of communities whose control of restricted resources such as tin gained them power and prestige.¹⁹¹ Parallels between material items found in these barrow cultures and the lands of the Near East and Aegean point to far-flung connections. What emerges from this mix of influences is hybridity. The Martkopi funerary assemblage, for instance, displays clear Kura-Araxes antecedents grafted onto elements derived from the north Caucasus. The shaft-hole axes resemble the elongated examples from Sachkhere, but are larger.

¹⁹⁰ Bertram 2003: 97–8.

¹⁹¹ Abramishvili 2010: 169.

CHAPTER 8

FROM FORTRESSES TO FRAGMENTATION: THE SOUTHERN CAUCASUS IN THE LATE BRONZE AGE THROUGH THE IRON AGE I (1500–800 BC)

THE CAUCASUS FROM 1500 TO 800 BC

Unlike the Near East and Mediterranean regions, where great social and political upheavals marked the transition between the end of the Late Bronze Age and the beginning of the Iron Age, around 1,100 BC, in the Caucasus this interlude is seamless.¹ Instead, the rupture in cultural traditions occurred around the middle of the second millennium BC – the shift between the Middle Bronze and Late Bronze Ages – when a number of significant changes were witnessed.

The middle stretch of the second millennium BC, beginning about 1,500 BC, ushered in a dramatically different period, distinguished by innovations in metallurgy and a huge increase in the production of metal objects across the Caucasus. This ‘Caucasian Metallurgical Province’, as Chernykh has termed the region, covered a much smaller geographical area than contemporary metalworking provinces in Eurasia and central Asia, but was second to none in terms of the sophistication of its products and the volume of production.² During the Late Bronze Age and Iron Age I (early Iron Age), a cultural continuum that lasted through to about 800 BC, the Caucasus nonetheless witnessed more social and cultural fragmentation than in previous periods.³

Settlement patterns and social organisation also changed. The remnants of villages increased in number and their remains were now more visible on the landscape. In the early stage of the Late Bronze Age, hamlets were scattered across the plains and low-rising terraces on both sides of the Caucasus. At the

¹ On the Near East and Mediterranean Late Bronze Age collapse, see Drews 1995; Cline 2014. The concept of collapse is well covered in McAnany and Yoffee 2010.

² Chernykh 1992: 275–95.

³ In Armenia, the term ‘Iron Age I’ has been substituted for ‘Early Iron Age’, see Smith et. al. 2009: 29 and *passim*. On the whole, this seems applicable to the rest of the Caucasus and Iron Age I is used here.

same time a new landscape feature appeared on both sides of the Caucasus – stone architecture. In Armenia and southern Georgia, we see unequivocal expressions of socio-political complexity and centralisation in the form of fortresses. These massive stone structures encircled by walls and sometimes equipped with ditches and ramparts were built in strategic positions on top of rocky precipices. They must have required a large labour force to construct, which speaks for a centralised authority that also promoted an economic boom generally attributed to the intensification of agriculture through the use of irrigation.

Elsewhere simple villages and hamlets still remained the norm in many parts of the southern Caucasus. This diversity can be interpreted in a couple of ways. Settlement distribution and the patterns of material flows suggest that the inhabitants of these hill forts exercised control over arable land and restricted access to resources, but they may also have provided a range of economic and defensive functions for their hinterlands. In the northern Caucasus, too, settlements were built in stone conforming to a novel symmetrical plan of juxtaposed dwellings in linear formation around a courtyard. Like their southern neighbours these groups experienced significant cultural transformations.

Despite these variations in social organisation, metallurgy and metalworking was a unifying thread. Whether torques or pins, spearheads or swords, metal items occupied a special place in the social and economic life of the Caucasus. Metalworking centres, copper initially and later iron, became increasingly specialised and produced high quality items that were in great demand. Technology, then, played a pivotal role in this epoch. Although the first iron artefacts appeared at the end of the eleventh century BC, there was no appreciable decline in the quantity of bronze objects until the eighth and seventh centuries, by which time iron was the main metal. Even then, the appeal of bronze artefacts – their patina and warm glow, tensile quality, and sophisticated designs – continued through to the fourth century BC.⁴

The Caucasus occupies a significant yet paradoxical position in the rise of iron. Western Georgia (ancient Colchis) offers one of the most extensive and richest metallurgical landscapes in the ancient Near East, boasting some 400 smelting sites, where both copper and iron were worked. Even so, the prospects the region offers for our understanding of archaeometallurgy in general have barely been realised. Only a few sites have been investigated and an equally small number of analyses of slags are available.⁵ Regardless of these restrictions, Colchis deserves attention in the history of technology and its relationship to the social and economic circumstances of the time (Chapter 10).

⁴ Chernykh 1992: 295.

⁵ For the conventional view, see N. Khakhutaishvili 2001, 2006, 2008; D. A. Khakhutaishvili 2009. Using modern scientific analyses and approaches, markedly different conclusions on Colchian mining and metallurgy have been reached by Erb-Satullo et al. (2014, 2015). See also Chernykh 1992: 275–6.

The transition from the Late Bronze to the Iron Age brought other significant changes. The ostentatious tombs for the elite that so marked the Middle Bronze Age became a thing of the past, and with them, gold work. Although barrow burials continued, they were fewer in number and smaller in size. In their place came a series of rather standardised and unassuming earthen pit graves, at times defined by wooden panels and roofs, or by slabs of stone that lined their walls. Nonetheless, they are replete with a wealth of either warrior symbols such as bronze daggers, swords, spears, and axe heads, or by a wide range of jewellery items.

With the increased quantity of metal objects came technological advances. Bronze working became quite refined, with artisans mastering openwork decoration, while the novel technique of lost-wax casting enabled hollow items to be produced. These innovations permitted both the creation of intricate items and the minimisation of precious raw materials used. After 800 BC, when iron metallurgy was commonplace, bronze working was consigned mostly to jewellery making. Potters were a less adventurous crowd. They still preferred to fashion containers by hand, but had started to experiment with the wheel, resulting in a varied range of new forms.

Cultural interaction crisscrossed the whole of the Caucasus and extended well beyond its boundaries. Indeed, more than in any other period, the region lived up to its metaphorical identity as an isthmus connecting the world of Europe with that of the Near East. It absorbed influences from both regions, but never to the point of drowning out its own distinctive cultural traits, which communities maintained with palpable tenacity. To what degree these fundamental changes can be attributed to the influx of new peoples into the Caucasus, or to the adoption and modification of novel ideas, or to native ingenuity has been a much-debated issue.

Local archaeologists working in the Caucasus have collectively identified no less than seven archaeological traditions during this period (Figure 8.1):

- Lchashen-Tsitelgori – incorporating the Armenia-specific Lchashen-Metsamor horizon and the now out-dated Central Transcaucasian or East Georgian culture situated in the central and southern south Caucasus,⁶
- Ghodshali-Kedabeg – the Karabakh Gandsha horizon in the Nakhichevan region and parts of Azerbaijan.⁷

⁶ Martirosian 1964, 1969; Badalyan et al. 2009. In Armenia, the Lchashen-Metsamor cultural horizon is subdivided into three Late Bronze Age periods (Lchashen-Metsamor 1–3), two Iron Age I (a and b) periods corresponding to Lchashen-Metsamor 4–5, and an Iron Age II (a and b) coeval with the period of Urartu (Lchashen-Metsamor 6). A considerable amount of this nuanced periodisation is based on a seriation of pottery from burials, see Smith et al. 2009: 33–93; for overviews on the Central Transcaucasian and East Georgian terms, see Pitkhelauri 1973, 1995.

⁷ For a useful study of the so-called Ghodshali-Kedabeg culture, also referred to as Khojaly-Gedebey, based on early collections found in European museums, see Ateş

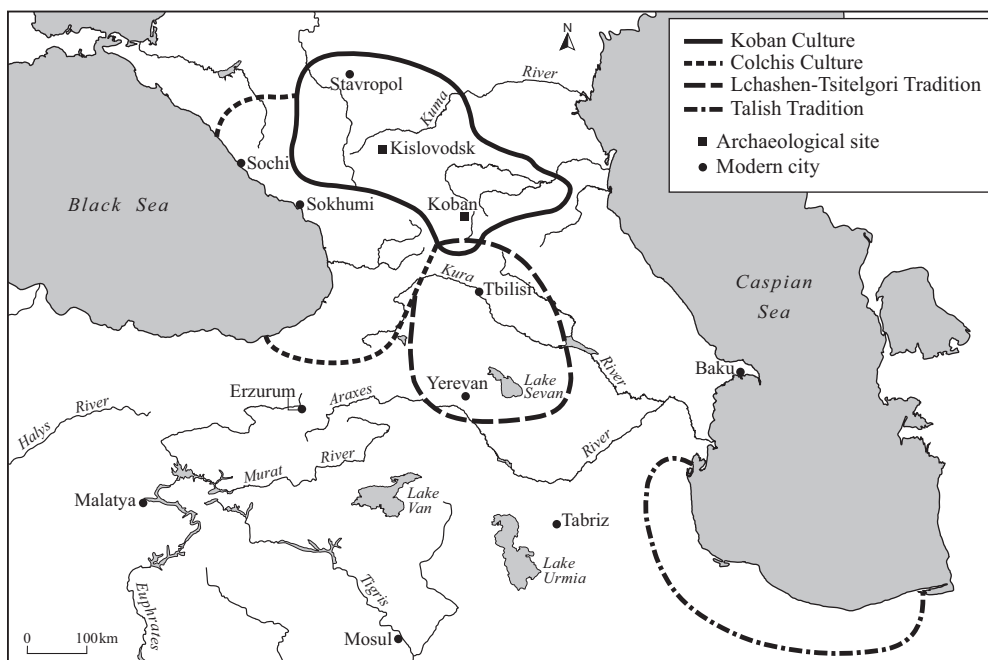


Figure 8.1. Map showing the Late Bronze Age–Iron Age I traditions (drawn by C. Jayasuriya).

- Koban – the central and western Caucasus⁸
- Colchian – western Georgia⁹
- Talish – the south-eastern tip of Azerbaijan, extending along the Elburz region of northern Iran¹⁰
- Samtavro – central Georgia and the Shida Kartli region¹¹
- Kaiakent–Chorochoi – eastern Caucasus¹²

A close examination of the evidence, however, reveals that only the first four of these traditions can be defined as discrete cultural units based on specific artefact types, modes of burial, and general settlement patterns. Even then, their ancient boundaries were never sharp, owing to the considerable flow of

2015. See also Pogrebova 2011, Schachner 2001. There is also Pitskhelauri in Miron and Orthmann 1995: 103.

⁸ For the traditional view that distinguishes Koban from Colchis, see Kozenkova 1996: 62–73, fig. 26; Cf. Reinhold (2007: 12–27) and Apakidze (2009), who believe they should be clumped together.

⁹ Koridze 1965; Apakidze 2009.

¹⁰ For early discussions, see de Morgan 1896, summarised by Schaeffer 1948: 404–43; Iessen 1935. More recent studies include Makhmudov 2008, Castelluccia 2016, and those that concern the Gilan and Mazandarn region in Iran, such as Piller 2012.

¹¹ Sadradze 2002; R. Abramishvili 2003; Akhvlediani 2005. Pitskhelauri 1973 takes a different view on East Georgian chronology.

¹² Kruglov 1958; Markovin 1994b.

materials and ideas between communities. Of the other three categories, the Ghodshali-Kedabeg horizon is so similar to Lchashen-Tsitelgori that it does not warrant being treated separately, while both the Samtavro and Kaiakent-Chorochoi horizons are too inadequately articulated at present to provide an informed opinion at this stage.

Several factors have contributed to this bewildering situation, most of which we have dealt with before – the promotion of local sequences, the notion of ethnogenesis, self-referential perspectives adopted within modern geo-political borders, and an almost obsessive desire for the construction of elaborate relative chronologies without supporting radiocarbon readings. Complicating this situation is the loose usage of the term ‘culture’. In some instances, a mere handful of new material aspects – a different ornamentation on a clay pot, or a new metal item – have been enough to designate a new cultural community. In any case, I refer to some of the attributes of Samtavro, Ghodshali-Kedabeg, and Kaiakent-Chorochoi horizons in the following pages, which nonetheless will focus on the Lchashen-Tsitelgori and Talish traditions. The Koban and Colchian horizons will be dealt with in subsequent chapters.

THE LCHASHEN-TSITELGORI HORIZON (1500–800 BC)

This cultural horizon covers an area from the Araxes valley in Armenia through the middle Kura valley around Tbilisi, to the southern slopes of the central Caucasus. There is a concentration in the Iori and Alazani regions of Kakheti, whereas the Surami Ridge and Mingechaur, in western Azerbaijan, define its western and eastern boundaries respectively. The emergence in the mid-second millennium of conspicuous fortresses defined by formidable stone walls is one of its most defining characteristics. As Adam Smith aptly points out, ‘the social inequalities visible in the kurgans of the early second millennium appear to have been formalised into a tightly integrated socio-political apparatus where the critical controls over resources – economic, social, sacred – were concentrated within the stone masonry walls of powerful new centres’.¹³ With these fortresses, which appear to have lower townships in some places such as Azerbaijan, came new types of cemeteries, often neatly and deliberately clustered.¹⁴ These novel paradigms of authority entrenched the notion of territoriality.

Fortresses

Hill forts are particularly characteristic of the rugged Armenian landscape, where they are well documented, and the nearby Dzavakheti region. Many

¹³ Smith et al. 2009: 30.

¹⁴ Hammer 2014.

fortresses have also been reported in the adjacent areas of southern Georgia, eastern Anatolia and north-western Iran, but none have been as thoroughly studied as those in Armenia.¹⁵ Built with roughly hewn stone blocks, some quite massive, these hilltop sites are located in strategic positions, typically perched on peaks that overlook plains and passes. As a further defensive measure, fortresses were often within sight of one another, which also enabled communication across a region. Geophysical prospection at Tsaghkahovit and Gegharot in Armenia, have also detected different circulation patterns around the fortresses, implying varying social networks.¹⁶ Exactly when these novel expressions of political power emerged remains unclear, but sometime around 1500 BC is a reasonable estimate.

The Armenian-American Project for the Archaeology and Geography of Ancient Transcaucasian Societies (Project ArAGATS) has conducted the most detailed and multi-scalar study of these fortresses.¹⁷ An intensive survey of the Tsaghkahovit Plain, on the northern fringe of Mount Aragats in central Armenia, revealed no less than ten Late Bronze Age (1500–1100 BC) fortresses and 199 cemeteries of similar age, accommodating some 5,970 tombs. This abrupt display of political centralisation, which appeared early in the Tsaghkahovit Plain, stands in stark contrast to the Middle Bronze Age, when mobile communities left behind shallow and transient settlements, and no more than fourteen burial grounds. One of the clearest indicators of this shift comes from the two main chambers of Barrow 1, situated below the fortress at Gegharot.¹⁸ One chamber (western) was transitional in character: a jumble of animal bones, no human remains, and ceramics that had clear Middle Bronze to Late Bronze features. The other compartment (central) revealed new sensitivities. The head and forelimbs of a horse were ceremoniously placed beside two skeletons, an adult male and an infant. This custom of placing animal extremities in tombs, plus the accompanying grave goods, clearly fixes the chamber to the Late Bronze Age.

The fortresses of Tsaghkahovit and Gegharot, some 8 km apart, are the two largest in the survey area. Tsaghkahovit, overlooking the plain 80 m below, encircles an outcrop over about 7.5 ha, and is crowned with a flat citadel some 0.6 ha in area (Figure 8.2(4)). If we add the terraces, the residential semi-subterranean buildings at the foot of the citadel, and the surrounding terrain, the site reaches across 39.6 ha.¹⁹ Typically of the fortresses, the perimeter fortification wall is constructed with stones of varying size, some massive,

¹⁵ See Özfirat (2009a) for the latest of a series of reports on the easternmost provinces in Anatolia. Ceylan (2008) conducted a number of more wide-ranging surveys; Biscione 2009.

¹⁶ Lindsay et al. 2014.

¹⁷ Smith et al. 2004; 2009; Badalyan et al. 2008; 2014.

¹⁸ Badalyan et al. 2008: 59–60.

¹⁹ Smith 2015: 160.

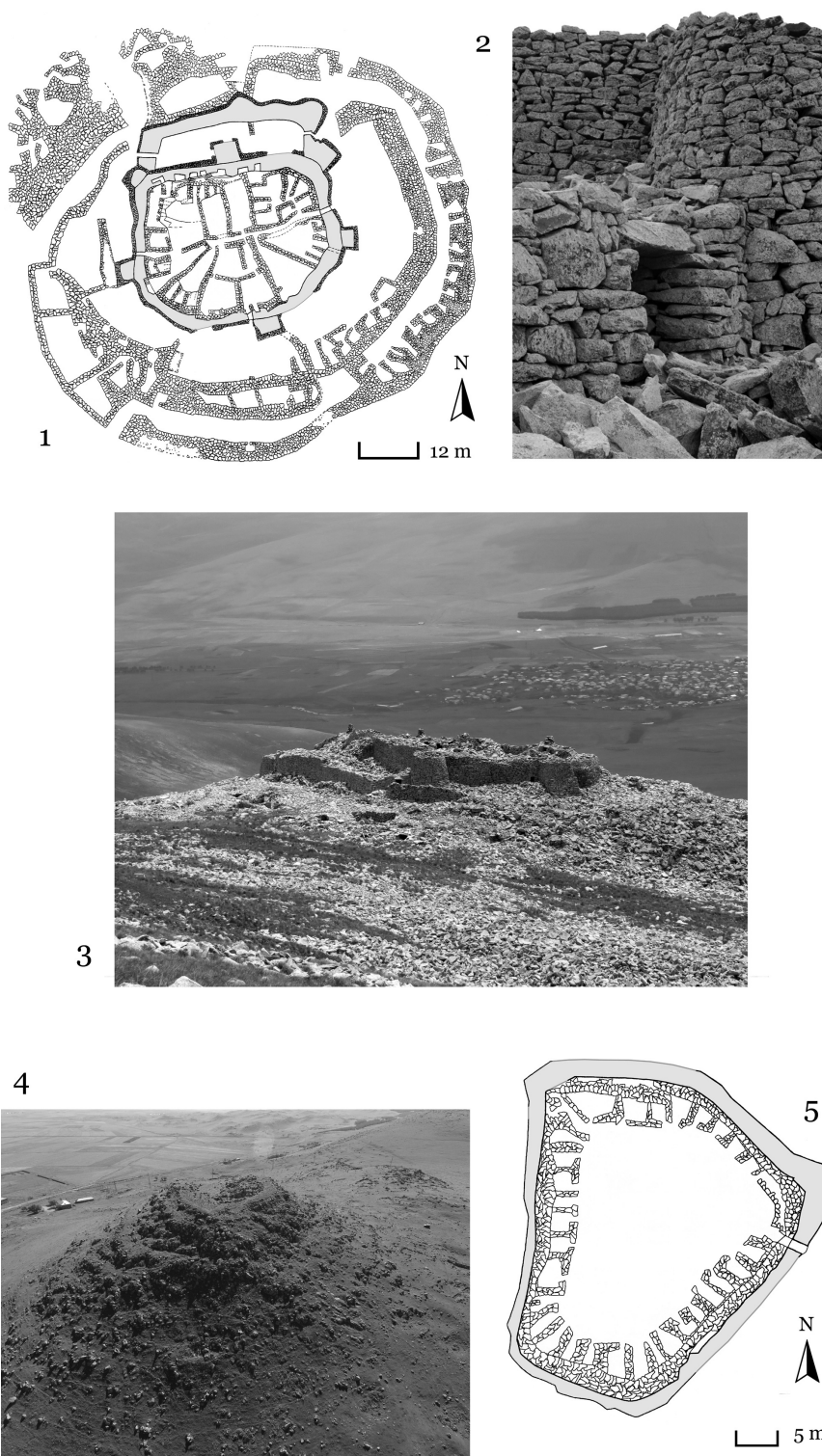


Figure 8.2. Fortresses: (1–3) Abuli; (4) Tsaghkahovit; (5) Shaori (after Narimanishvili et al. 2010b; 2 courtesy G. Bedianashvili; 3 courtesy Archaeological Survey in Samtskhe-Javakheti; 4 courtesy Project ArAGATS).

placed on bedrock and reinforced with buttresses. The wall comprises two stone leaves filled with a rubble core. Both the exterior and interior faces of the stones were roughly smoothed for aesthetic purposes. Within the fortress there were no enclosure walls, but its builders carved a series of flat areas – terraces that were faced with a single row of stones. Buildings are spread across the fortress hill and appear to cluster into three primary complexes.

Gegharot is smaller (3.43 ha) and quite eroded around the citadel, though the fortification wall is preserved to several courses in parts. Like Tsaghkahovit it is amongst the earliest settlements. Constructed just before 1500 BC, Gegharot was destroyed and re-built a century later, and provided with paved courtyards, storage areas, workrooms, and even a series of shrines. Gaps and features along the wall suggest a gateway and possible buttresses. Another striking feature of this Late Bronze Age landscape is the well-circumscribed clusters of cemeteries spread across the Tsaghkahovit Plain, mostly of the cromlech type: a stone cist tomb encircled by a single row of stones.²⁰ The sharp boundaries between the cemeteries have been interpreted as a reflection of the territoriality of competing regional leaders extending into the mortuary landscape.²¹

Fortresses, often in an excellent state of preservation, also dot the south Georgian landscape – in the Tsalka and Dzhavakheti regions, and on the other side of the river in Meskheti. Leo Meliset-Bek's investigations in the 1930s initiated an interest that was pursued by Kuftin and has only recently been re-kindled.²² Beshtasheni is unusual amongst the group. It has no fortification wall, but deep ditches provided it with a defensive apparatus. In 1990, the Tsalka expedition continued where Kuftin left off, and carried out exploratory excavations at Sabechdavi fortress (150 x 90 m) fitted with two entrances. The site comprises both a hill fort and an adjacent settlement. The stonework of the fortification wall is massive, with blocks up to 4 m in length.²³ Thirty houses were documented within the walls, fringing the perimeter of the hill fort (Area A). Of the ten houses that were excavated, each was a single-roomed affair, covering an area of between 12 and 15 m². A circular hearth, about 30–35 cm in diameter, manufactured from coarse gritty clay, was the focus of each house. The cultural debris was not rich – coarse, obsidian-tempered pottery; obsidian debitage; and well-used basaltic grinding stones – but the ceramics can be comfortably accommodated into the Late Bronze Age (see below), which in the absence of radiocarbon dates provide a relative time slot.

Near the eastern entrance at Sabechdavi is an alignment of menhirs, the meaning of which eludes us, heading east towards Mount Eli-Baba and then

²⁰ Cromlechs should be distinguished from kurgans. While their edges are both defined by a circle of stones, cromlechs have no earthen mound and do not exceed 10 m in diameter.

²¹ Smith 2015: 164.

²² Melikset-Bek 1938.

²³ Narimanishvili et al. 2010; Narimanishvili and Šanšašvili 2010.

around it. Some 100 m from the hill fort's eastern entrance, the line bifurcates and becomes two parallel rows that continue for a further 900 m. Buildings are located between these menhirs (Area B), but unlike the houses within the fortress, they are substantial (ca. 160 m²), twin-roomed structures. Forty were documented, of which two have been excavated. Both houses had floors that were lower than the ground surface outside, and House 1 had two entrances; the other house had only one doorway. The walls were constructed from basalt blocks and, in sections, reached a height of 1.5 m. Two postholes in House 1 held supports for the roof. Both houses displayed similar features: one room had a lime-plastered floor with a fixed hearth, while the adjoining room was paved with basalt flagstones, possibly to keep cattle. The presence of churns, four amongst forty-three ceramic containers found scattered across the floor, demonstrates that milk production was part of the household activities. The churns were black and fine in quality, standing in contrast to the rest of the assemblage – coarse grey vessels tempered with obsidian. Both shape and incised decoration place the pottery around 1400–1300 BC. How and why this site came to an end is unclear. There is no evidence of burning or violence, but abandonment was sudden.

Even the cursory fieldwork that has been carried out in southern Georgia shows up many differences between the sites. Aside from Sabechedavi, there are the intriguing sites at Shaori, Abuli, and Avranlo (Figure 8.2(1–3, 5)).²⁴ Shaori has an unusual plan, rhomboid with circular spaces, and is situated at an altitude of 2700 m, which makes it an unlikely domestic centre. Its date is no more certain, though a Middle Bronze Age date has been assigned to it. Hill fort construction continued into the Early Iron Age (eighth–seventh centuries BC) as attested by Knole, which does have a perimeter wall but no menhirs. Curiously, the seven structures documented at Knole are all located outside the hill fort, and not far to the west of a contemporary cemetery.

Settlements

Turning to settlements, the site Sajoge, situated in the Digomi Plain on the outskirts of Tbilisi, is significant not least because of its secure chronology (ca. 1900/1800–1300 BC) supported by radiocarbon readings.²⁵ So far, excavations have revealed two building horizons with several building phases. The site is extensive, spreading across 20 ha, but is no longer immediately visible. Its cultural layers, averaging between 1.5 and 2 m, are buried up to 3 m beneath the surface of the ground, a situation caused by heavy soil erosion from the surrounding hills.

²⁴ Narimanishvili et al. 2010.

²⁵ Abramishvili and Orthmann 2008.

Well-planned architecture and a fortification wall suggest an important and substantial settlement. The lowest building horizon (Middle Bronze Age) was difficult to discern, owing to the disturbance caused by the Late Bronze constructions above it. It was not altogether clear whether houses had mud-brick walls or were wooden constructions plastered with clay. But pottery sherds with comb-stamped triangles can be confidently ascribed to the late phase of the Trialeti culture.

There was no doubt about the mode of construction and plan of the Late Bronze Age dwellings (upper horizon), Buildings 2 and 4. They were pit houses, a type that required stepping down onto the floor from outside, built in the dry-stone technique with large sandstone blocks and occasionally with cobblestone fillers. The walls of Building 2 comprised two rows, while Building 4 had walls built from a single row of stones. On the interior, the walls of both buildings were well finished with a coat of clay or mud plaster. We do not know what type of roof Building 2 had, but that of Building 4 conforms to a characteristic type for the southern Caucasus. Wooden posts were first erected along the wall line, then the stone wall was subsequently built around them. With this method of construction, it was common for posts to be placed in each of the four corners of a room. Circular flat stones, used as bases for central pillars and found along the axis of the building, represent central support. Next to these stones was a hearth built with flat sandstones set into the floor. Similar hearths were found in Building 5 (Middle Bronze Age horizon) and Building 1.

Building 4 is square in plan with a corridor-like entrance on the eastern wall, and measures approximately 85 m² in area. Judging by the amount of stone debris, the structure was probably built from mixed media – stone along the lower half and a wooden superstructure. The floors of the house were split-level, with the entrance about 20 cm higher than the floor of the room. A stone step enabled access from the corridor to the room. Remnants of wood may have belonged to the wooden door. Fragments of crystallised wooden beams, one with a carefully cut-out mortise, point to a substantial and elaborately constructed framework. It is not clear whether a doorway connected Buildings 4 and 2 – modern building activity damaged this area – but the space between two structures appears to have been a cooking area. It is heavily burnt, as are many areas of the upper horizon, and has a stone hearth.

Three samples of charcoal from the upper building horizon have placed it in the second half of the second millennium. Radiocarbon analyses calibrated at the 95 per cent probability have yielded the following readings: 3180±50 BP (OZG 363), sample 1, Building 2; 3260 ± 40 BP (OZG 364), sample 2, Building 2; 3070± 40 BP (OZG 366), sample 4, Building 1.²⁶

²⁶ Abramishvili and Orthman 2008: 278; the early date provided by a further sample 3500 ± 50 BP (OZG 365), sample 3, Building 1 can be explained as backfill caused by the Late Bronze Age builders.

Summing up, Sajoge is important because it is a well-defined settlement of the Lchashen-Tsitolgori culture, otherwise mostly known from tombs and fortresses. The settlement plan of the village, with carefully laid out buildings, some quite large, and fortification walls, suggests a substantial and prosperous community. Connections between the Lchashen-Tsitolgori culture and the earlier Middle Bronze Age Trialeti culture are reflected in certain ceramics traits and also in the persistence of barrow burials, some quite rich. Given the extensive burning in the upper horizon, it appears that the Late Bronze Age settlement was destroyed at the tail end of Lchashen-Tsitolgori culture. The lack of complete vessels suggests that the community had time to gather their belongings and move on. According to Rostom Abramishvili the Lchashen-Tsitolgori tradition gradually petered out between 1300 and 1200 BC, a view now supported by the Sajoge radiocarbon analyses. Although the lower Middle Bronze Age settlement has not provided a coherent plan, it is no less significant, given the absence of settlements clearly attributable to the Trialeti culture.

Burial Customs

There are many cemeteries of the Lchashen-Tsitolgori horizon, and the tomb types are varied. In eastern Georgia simple earthen graves are common, whereas in Armenia cromlechs were preferred.²⁷ The cemetery at Artik, on the other hand, investigated by T. Khachatryan during the 1960s, only has shaft-and-chamber tombs (so-called catacombs).²⁸ Some 641 tombs, which have a square shaft and oval chamber, were cut into the tufa bedrock and plugged with stones or large blocks of tufa of a different colour to the bedrock (Figure 8.3(2)). Despite the uniformity of their tomb architecture, burial practices at Artik varied and the tombs hardly ever contained the bones of children.

The excavator discerned an evolution from individual to collective burials at Artik. Individual burials, the most common and earliest form, saw the deceased laid to rest on either side in a tightly flexed position. Then came double inhumations, followed by tombs with three to seven individuals, whose bones were disarticulated. A curious variation on this collective type is found with Tombs 217 and 223, which had a complete skeleton at one end of the chamber and six skulls stacked on top of one another at the opposite end. The area in between had the disarticulated bones belonging to the skulls; and only the articulated skeleton was associated with grave goods.²⁹ In contrast to this are sixty tombs of the same type that were empty (cenotaphs). The developmental chronology of the Artik cemetery has been debated, and Badalyan and Avetisyan's attempt at it is the most convincing. They argue for a threefold division – Group 1

²⁷ Bertram 2003.

²⁸ Khachatryan 1979; Badalyan and Avetisyan 2007: 67–79.

²⁹ Badalyan and Avetisyan 2007: 68.

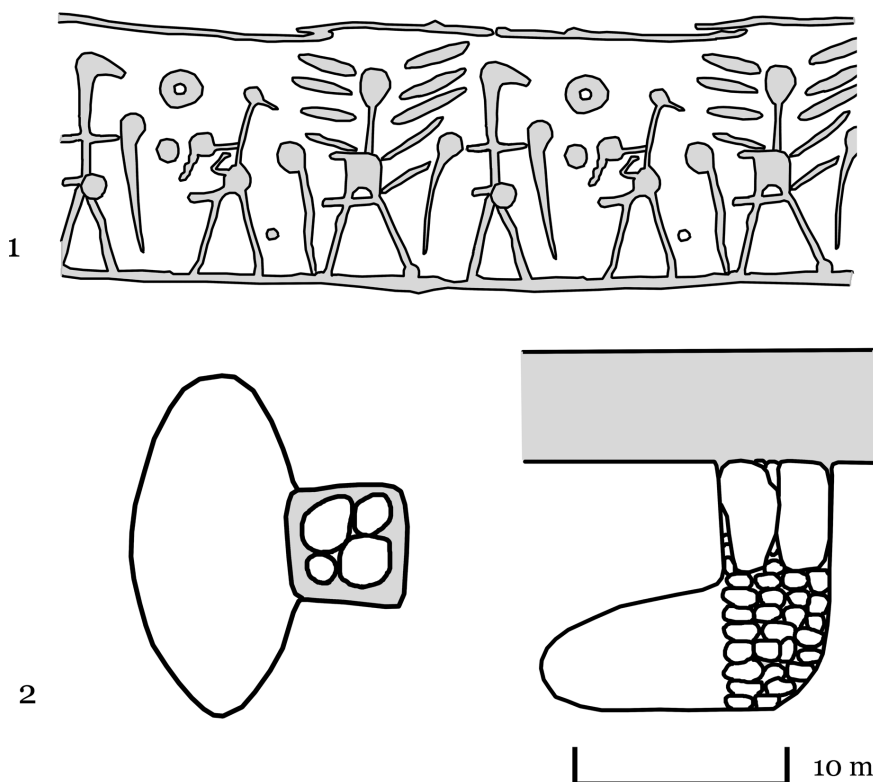


Figure 8.3. Artik: **(1)** Tomb 422, Mitannian cylinder seal; **(2)** typical catacomb tomb (no. 1 drawn by C. Sagona after Khachatrian 1975; no. 2 after Badalyan and Avetisyan 2007).

(ca. 1500–1450 BC); Group 2 (ca. 1450–1250 BC) the majority of tombs, with cylinder seals bearing Mitannian motifs (Figure 8.3(1)) in Tombs 53, 422 and 635 providing links to the Near East; and Group 3 (ca. 1200–700 BC), assigned to the Early Iron Age.³⁰

Cromlechs covered by a tumulus of earth and stone, such as those at Late Bronze Age Hnaberd, Khjabagher, and Aparan II (Figure 8.4), form another grave type. The burial chamber beneath generally comprised a rectangular earthen pit, or a cist tomb with walls, and occasionally a floor lined with stone blocks. The roofs of cist tombs were sealed with stone slabs that were, in turn, encircled by one or two rows of stones.³¹ By the Early Iron Age, the practice of marking tombs with a cromlech had started to wane in Armenia, but the basic tomb types remained unchanged if somewhat larger in size. Each tomb

³⁰ Badalyan and Avetisyan (2007: 68) include tombs 33 and 260 in Group 1, and 19 tombs (206, 208–09, 211, 217–19, 221, 223, 295, 298, 369, 417, 420–421, 428, 431, 539, and 631) in their Group 3. For a cylinder seal from Metsamor inscribed in Egyptian see, Khanzadian and Piotrovskii 1992.

³¹ Badalyan and Avetisyan 2007: 114–21.

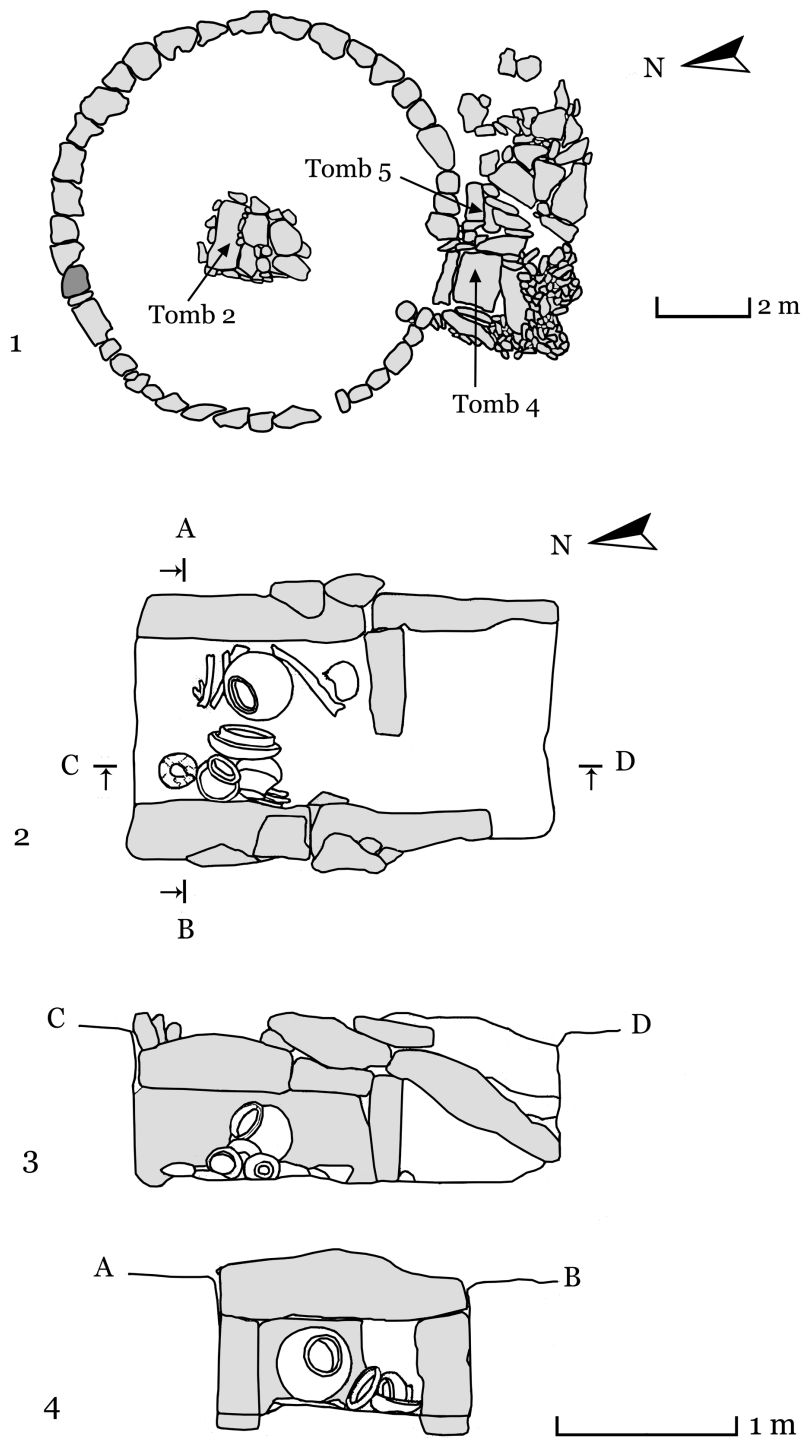


Figure 8.4. Aparan II cromlech, Tombs 2, 4 and 5 (after Badalyan and Avetisyan 2007).

generally accommodated one individual, placed in a flexed position, though double and multiple burials are also known.

Barrow burials continued, but were largely a thing of the past. At Tsitelgori, barrows were investigated by the Kakheti archaeological expedition.³² Although they were low-lying – the highest (Barrow 10) rose no more than 1.2 m above the ground level – some were quite expansive, measuring up to 35 m in diameter (Barrow 20). Two barrows (nos. 1 and 2) were targeted for excavations, and in both cases the skeleton was in a foetal position. Barrow 1 was relatively small (ca. 12 m in diameter), but contained a rich assemblage of funerary goods (Figure 8.5). At the centre of the barrow was a rectangular pit grave (6.5 x 4.5 m). It was dug 3 m into the ground, but not sealed with wooden beams, as was the normal practice. Around the pit grave, on the surface of the ground, the relatives of the deceased had placed black burnished pottery vessels, stone tools worked from obsidian and parts of sacrificed animals, mostly cattle. Fragments of wood found in the pit may represent the remains of segments of a wheeled vehicle, though it was too difficult to determine with certainty. Given that some of the artefacts were found about 30 cm higher than others, the pit appears to have had a ledge.

Tsitelgori Barrow 2 was larger, with a diameter of 30 m. Substantial fragments of wood beneath the skeleton probably indicate that the deceased was placed on a wheeled vehicle body, which later collapsed. Beneath the wood were traces of matting that covered the floor, stained red, indicating that the deceased was ceremonially sprinkled with red ochre as part of the funerary process. Scattered throughout the tomb were a large amount of animal bones, skulls and extremities – the remnants of a funerary feast, a practice we have already discussed in Chapter 7. Chronologically, Tsitelgori Barrow 2 has been ascribed to the earliest phase of the Lchashen-Tsitelgori culture on the basis of egg-shaped pithoi, redolent of the last phase of the Trialeti Middle Bronze Age, and ‘shredded’ carnelian beads. Barrow 1, on the other hand, is a fully developed Lchashen-Tsitelgori burial.

Metalwork

In the Late Bronze Age, copper objects with arsenic and antimony impurities disappeared and were replaced with bronzes with a high content of tin, imported from areas as yet unknown. Local copper deposits, rich and plentiful, were heavily exploited, but no longer coincided with the centres of metalworking itself. Raw material was now exchanged in the form of ingots across the Caucasus, where master artisans transformed them into highly prized objects, using a variety of techniques such as casting, welding, and hot and cold forging. The remnants of metallurgy – heavy stone tools for grinding

³² Abramishvili and Abramishvili 2008.

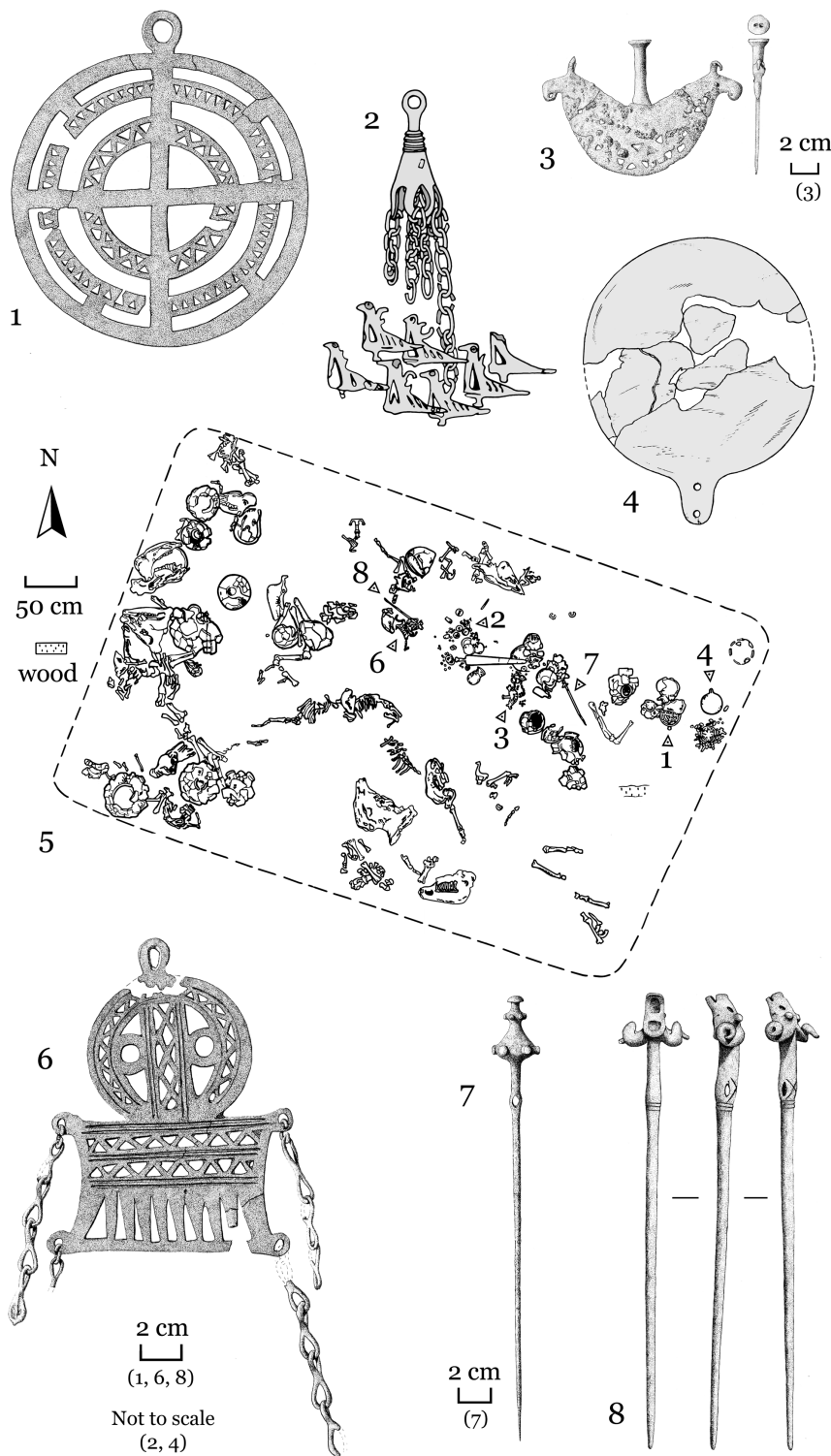


Figure 8.5. Tsitelgori Barrow 1 and some of its assemblage (after Abramishvili and Abramishvili 2008).

ore, samples of the ore itself, crucibles (often with residue of metals), moulds, fragments of scrap metal, and waste products – are evident at many settlements and dedicated workshops. To judge by the many clay crucibles found in Artik Burial 285, the tomb was without doubt the resting place of a well-respected metalworker.³³ A grave from Gantiadi, dated to the last centuries of the second millennium, is also believed to be a metalworker's grave.³⁴ It contained two-part moulds for the east Georgian battle-axes and flat axes, metalworking tools, crucibles, and some semi-finished products.

Although bronze remained the metal of choice, by Iron Age I there was an increase in the quantity of iron tools and weapons. In addition, there was experimentation in the form of bimetallic objects. In Armenia, these are known as Sevan daggers and have an iron blade with a bronze scabbard and pommel. Other metal tools and weapons include iron spearheads, and bronze-barbed arrowheads and knives. Equestrian trappings such as bar-shaped horse bits are plentiful, and amongst personal items we have bronze notched bracelets and bronze belts.³⁵

Looking at the weapons of the day, the so-called Central Trans-Caucasian battle-axe is one of the most typical. Examples are found in eastern Georgia, Armenia, northern Azerbaijan, and Nakhichevan, where they are considered part of the Ghodshali-Kedabeg horizon.³⁶ They have a wide and symmetrical blade with upward pointing ends, and a shaft hole that is oval in shape and defined by relief edges and a knob on the top (Figure 8.6(1–2)). A derivative form, elongated and flat (Figure 8.6(4–5)), could have been used in leatherwork (to scrape fat off hides prior to tanning) and woodworking. Another variation with an almost circular blade and zigzag ornamentation around the shaft was found at Artik (Figure 8.8(11–12)). The axes are generally found in tombs, though some form part of hoards, such as the one near Mekhchri fortress, in which a large number were included. Attested throughout most of eastern Georgia, a few of the axes have also been discovered in western Georgia, where a mould was found at Itkvisi, and also in north-eastern Turkey.³⁷ These axes were first produced around 1400 BC and continued in use until about 600 BC, when iron types displaced them. Amongst the earliest examples are those from the hoard at Kvemo Sasireti.

The earliest Late Bronze Age swords come in two varieties, both with composite handles. One is the Kedabek type (Figure 8.7(4)) which in design lies between the Near Eastern sword (with framed hilt), and the second type, the Kakhetian or east Georgian sword, which has a hilt cast in one piece together with its blade, and a pommel in the form of a hemispherical cap, decorated in

³³ Khachatrian 1975: 231. On metallurgy in the Armenian highlands see, Gevorkian 1980.

³⁴ Avalishvili 1974, pls. IV–VII; Picchelaury 1997: pl. 12, 109–14.

³⁵ Smith et al. 2009: 83.

³⁶ Picchelaury 1997: pls. 13–26; for examples from Kalakent attributed to Ghodshali-Kedabeg see, for instance, Nagel and Strommenger 1985: pls. 23, 32, 46, 50.

³⁷ Işıklı and Baştürk 2010.

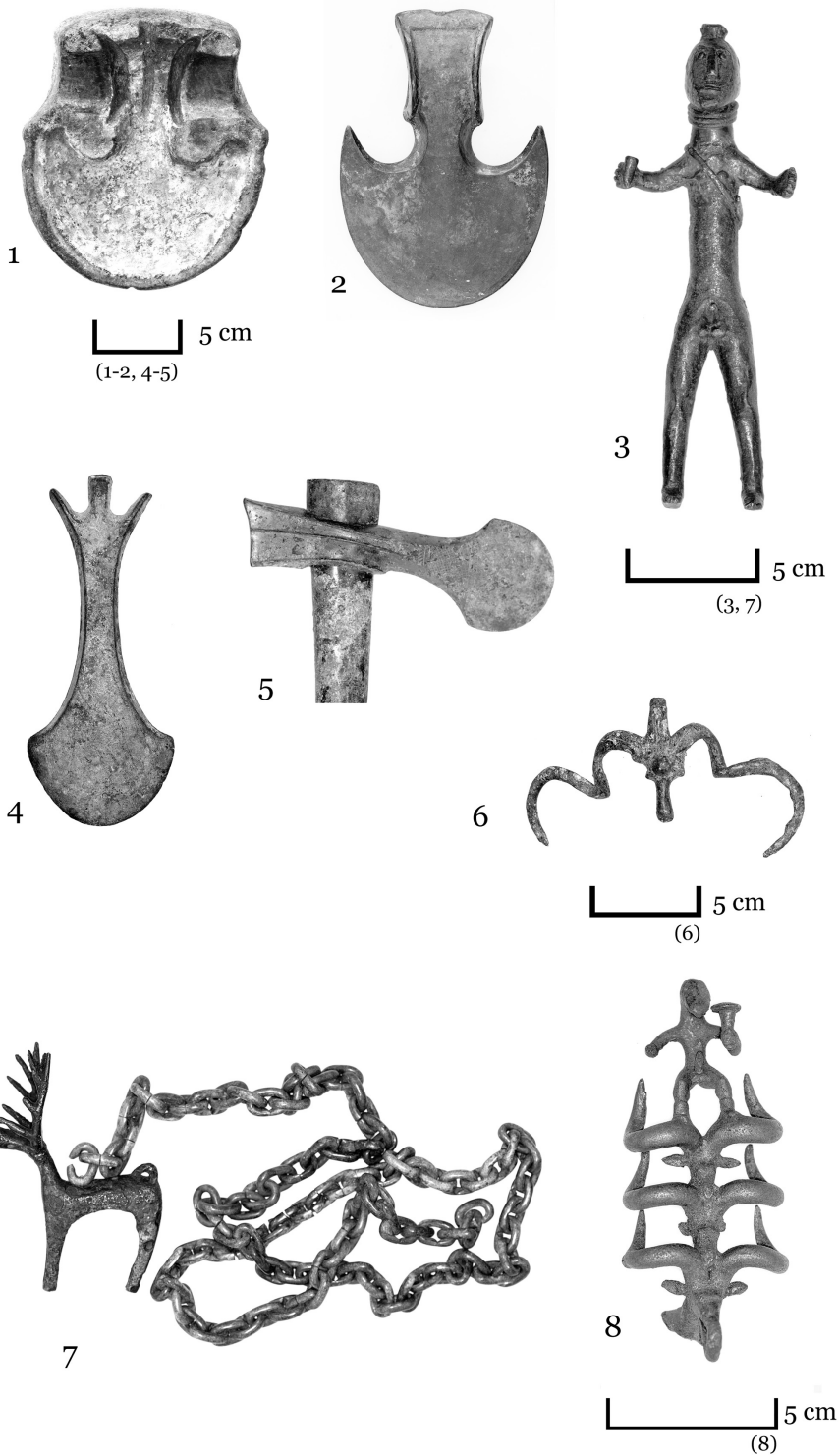


Figure 8.6. Assorted artefacts: (1) Ceramic axe mould; (2) battle axe; (3) anthropomorphic bronze figurine; (4) elongated axe; (5) bronze axe and shaft; (6) ram's head; (7) bronze chain and stag pendant; (8) rams' heads surmounted with anthropomorphic figure (photographs A. Sagona).

an openwork design (Figure 8.7(1–3)). Apart from the handle design, the two swords are very similar, though the Kakhetian variety is overall slightly longer. They both have squared shoulders, incised decoration in the upper blade, and fluting down their lengths. These two basic types evolved into a number of variants, which Pitkhelauri has classified into four main categories based on typological attributes – blade length, shape, and thickness; ornamentation; hilt design; and pommel design.³⁸ Unfortunately, we have no secure absolute dates to anchor their development, but by making a series of intricate connections, their lifespans can be bracketed within the 1600–700 BC timeframe.

A range of daggers further emphasise that we are dealing with a warrior society.³⁹ One class has a triangular-shaped blade and is simply a smaller version of the Kakhetian sword (Figure 8.7(1.1)). A second type is a leaf-shaped dagger (ca. 25 cm in length) with a bronze hilt, which was prevalent in Shida Kartli and associated by some with the so-called Samtavro horizon. The weapon was cast in two parts – blade and hilt – that were subsequently attached to each other. Its blade is thin and oblong in form, with sharp edges, a rounded point, and a central ridge on both sides. The hilt is thickened and distinctive. It is crescent-shaped along the lowest edge (the guard), narrows in the middle (the grip), and ends in a wide horizontal edge (the pommel). Hilts were also decorated. Some have a vertical row of linked wave spirals running down the handle and solid knobs along the edge. Other daggers have a blade that has the shape of an elongated triangle or an ogive. Perforations at the shoulder suggest that their hilts were made from another material (probably wood) and attached.

Spearheads have an open socket and an oval or triangular blade (Figure 8.7(5–7)).⁴⁰ A high ridge, an extension of the socket, extends all the way to the tip. Most are undecorated, though the example from Shilda in Kakheti is unique for the pattern of zigzags and stylised snakes running down its length. Iron Age (ca. eighth century BC) arrowheads have long, acutely angled, wings (Figure 8.7(8–9)). Their shafts are very long and have a cross-section that changes from square to round at the lower end. Mace heads have a long history in the Caucasus, extending back to the Neolithic. In the Late Bronze Age they are lobed, some ornately incised with animal or fish designs (Figure 8.8(13, 16)).⁴¹ Large forks (bidents) or single hooks also feature during this period and recall the much earlier examples from the Maikop culture (Figure 8.8(14–15)).⁴² Like their north Caucasian prototypes, their function is unclear, though it is conceivable that a pair of forks might have been used to skewer meat while it roasted.

³⁸ Picchelaury 1997: 17–21, pls. 37–47.

³⁹ Picchelaury 1997: 21–3, pls. 50–69.

⁴⁰ Picchelaury 1997: 23–6, pls. 71–86.

⁴¹ Picchelaury 1997: 26, pls. 87–8.

⁴² Picchelaury 1997: 26, pl. 89.

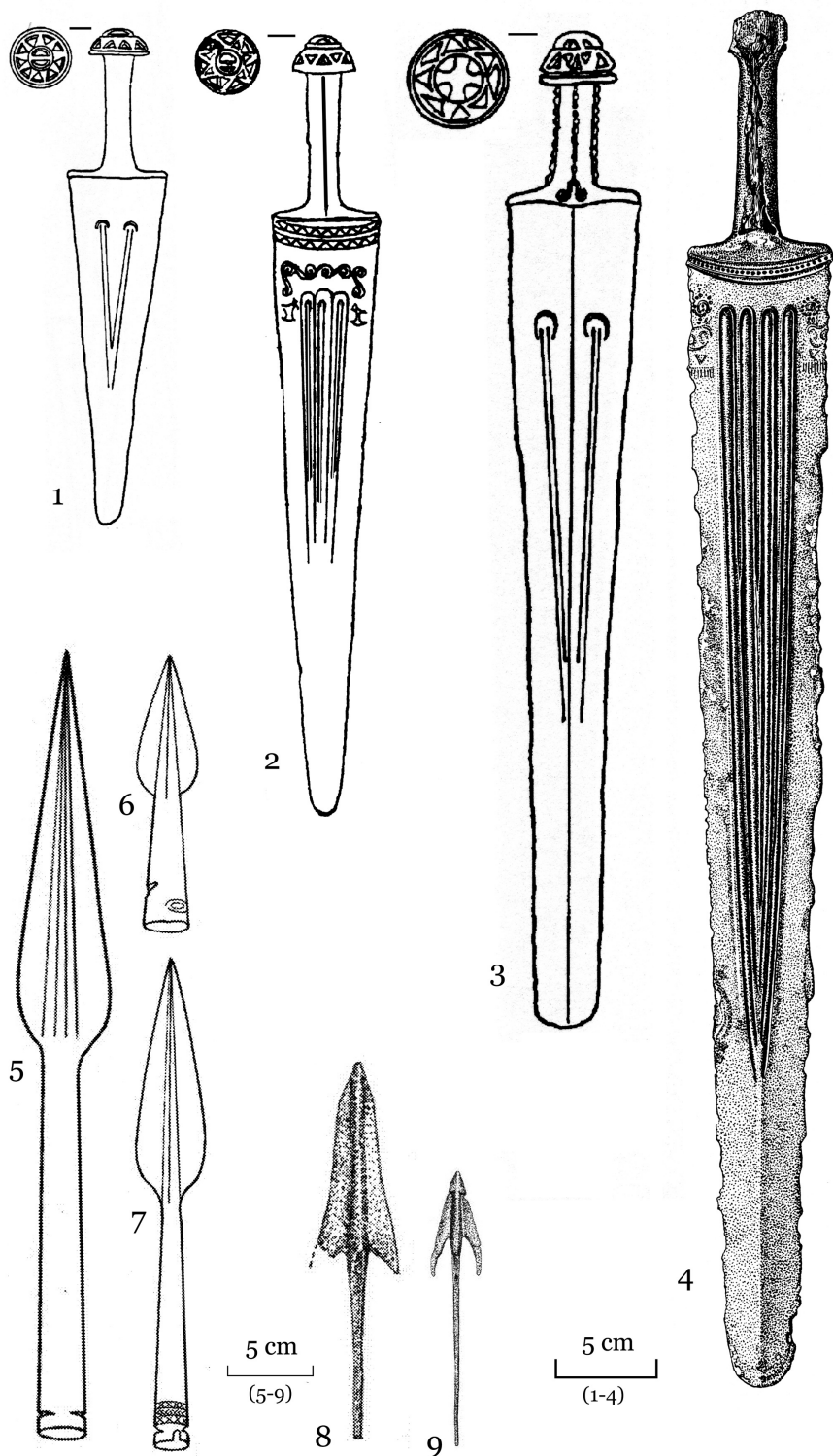


Figure 8.7. Bronze weapons: (1) Satvaliscqali Tomb 15; (2) Kedeli Tomb 1, (3) Sangali, (4) Kaiakent Tomb 112; (5–7) Artik; (8–9) Mastara (after Nagel and Strommenger 1985; Picchelaury 1997; Badalyan and Avetisyan 2007).

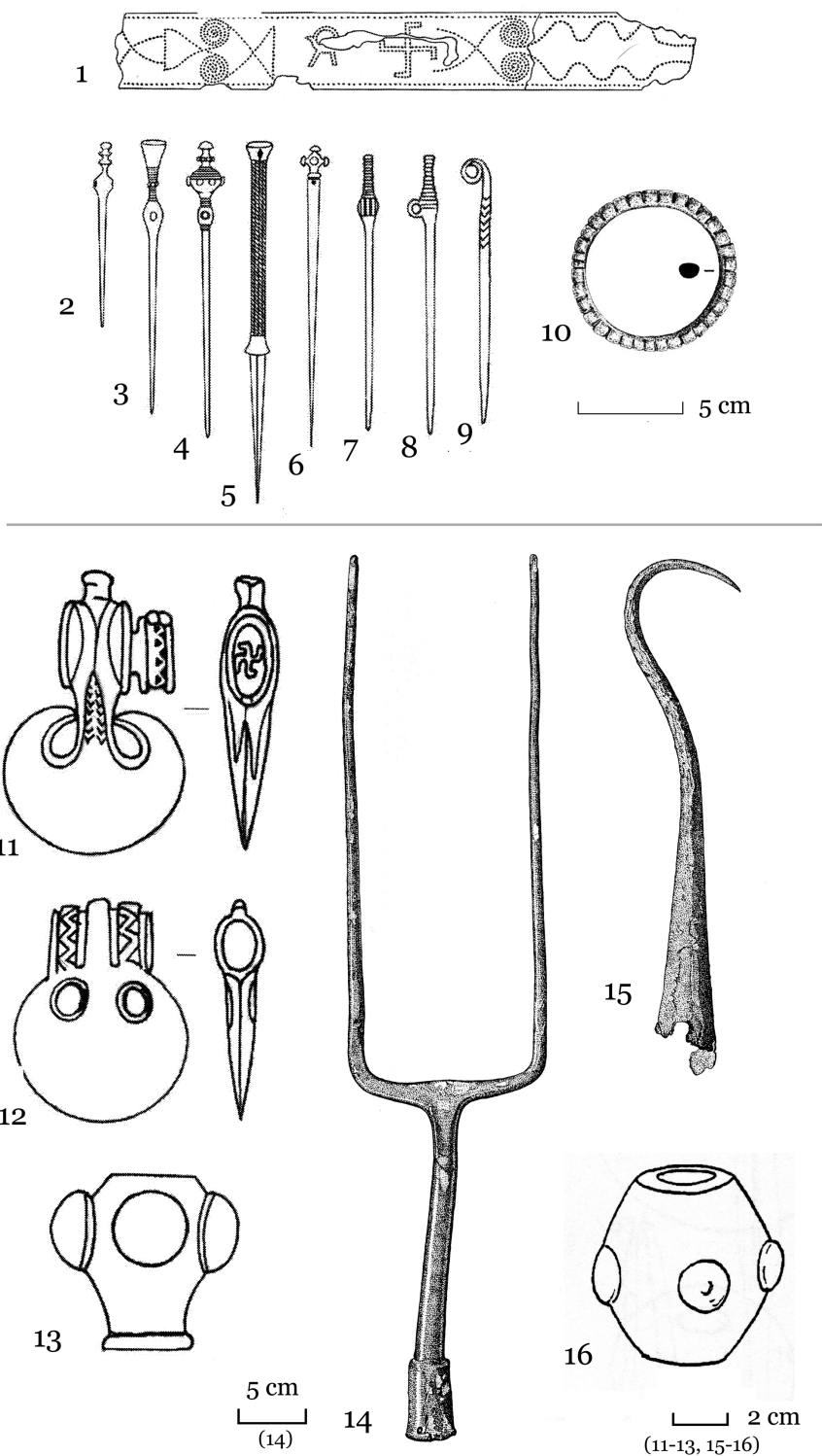


Figure 8.8. Bronze jewellery and ceremonial items: (I–9, II–I3) Artik; (I0) Katnaghbyur; (I4–I5) Kaiakent Tomb 112; (I6) Tli, stone mace (after Nagel and Strommenger 1985; Picchelaury 1997; Badalyan and Avetisyan 2007).

Jewellery items include pins, diadems, bangles, massive cast loop bracelets (possibly ingots), which are sometimes decorated, and pendants and pectorals of various forms (Figure 8.8(1–10)). From Melaani Tomb 85 we have a complex piece, comprising an upper semi-circular and lower rectangular section. Both have cut-out designs and are edged with wave spirals. Down the middle of the upper section is a row of five relief frogs, a popular motif at the site. Six loops are attached to the lower section, from which were hung openwork bird figurines attached to chains.

Amongst the most striking items of jewellery across the Caucasus are the ornamented bronze belts.⁴³ The total number of belts with a known provenance stands at 349. A good many are exquisitely incised and would have been expensive to manufacture. Created as a tensile band of bronze skilfully curved to fit the waist line of the wearer, these items are often found in three or four fragments that still retain some curvature. Their ends were usually perforated with holes that served as eyelets for lacing. While some belts are plain, or bear geometric designs, many are decorated with eye-catching and dynamic designs executed with incised point and line work and punched patterns (Figure 8.9–8.10). A decorative border, comprising a range of twist patterns, running triangles, spirals or lozenges, surrounds a central field of animals and fillers.

Although the borders are almost mechanical in their precision, the animals are rendered with vitality. Lions and bulls, horses and antelopes, often with open mouths, are depicted running across the field, sometimes in a frenetic manner, or standing with head tilted back. There are also scenes of animals, their bodies decorated with intricate geometric markings and their tails swept up over their backs, confronting each other in a heraldic show of boldness. Birds are also shown, usually riding on the back of one of the larger animals. Humans, by comparison, are much less active. They are sometimes seated in a banquet scene, or depicted as archers. Not all the belts have orderly scenes. One example from Mouci Yeri, for instance, now in the Saint-Germaine-en-Laye Museum, depicts animals in a hodgepodge manner and cheek to jowl.⁴⁴

The style of these belts and the dynamism they depict can be attributed to a distinctive Caucasian folk art, quite different to the rather static and ‘wooden’ renderings found on Urartian belts. William Culican and Jenny Zimmer offer precise descriptions of the decorative variations found on these belts and propose four stylistic groups.⁴⁵ At Tli, a site that shares both Koban and south Caucasian affinities (Chapter 9), belts show animal processions and hunting and banquet scenes. Another group is termed the Mouci Yeri, with rather motionless animals and humans. But the examples from Armenia and Azerbaijan reflect a development from highly stylised to vibrant scenes, with

⁴³ For the definitive study on belts, see Castelluccia 2017; Culican and Zimmer 1987.

⁴⁴ Castelluccia 2013: fig. 2.

⁴⁵ Culican and Zimmer 1987: 197–8. See now Castelluccia’s (2017) categorisation.

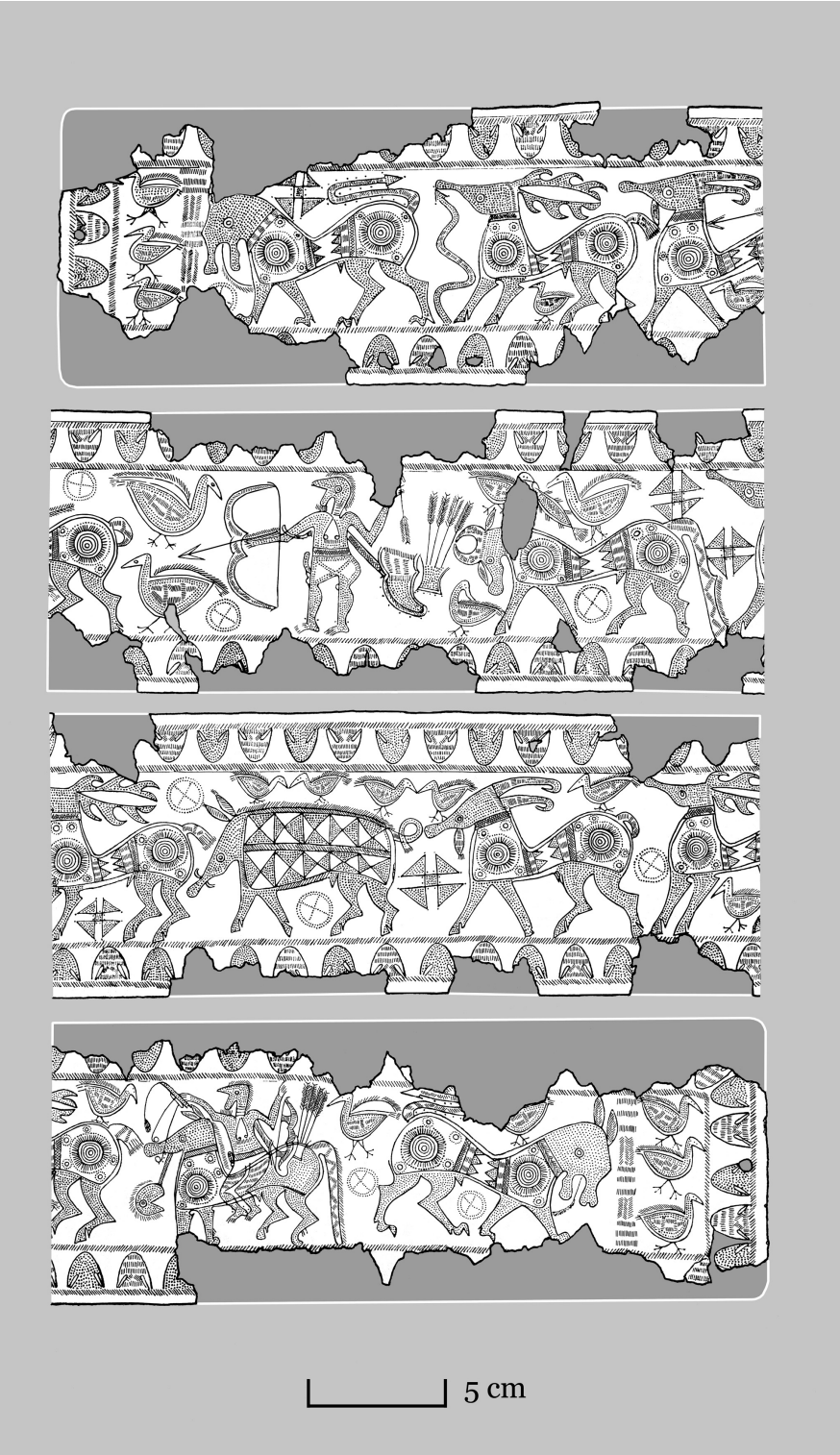
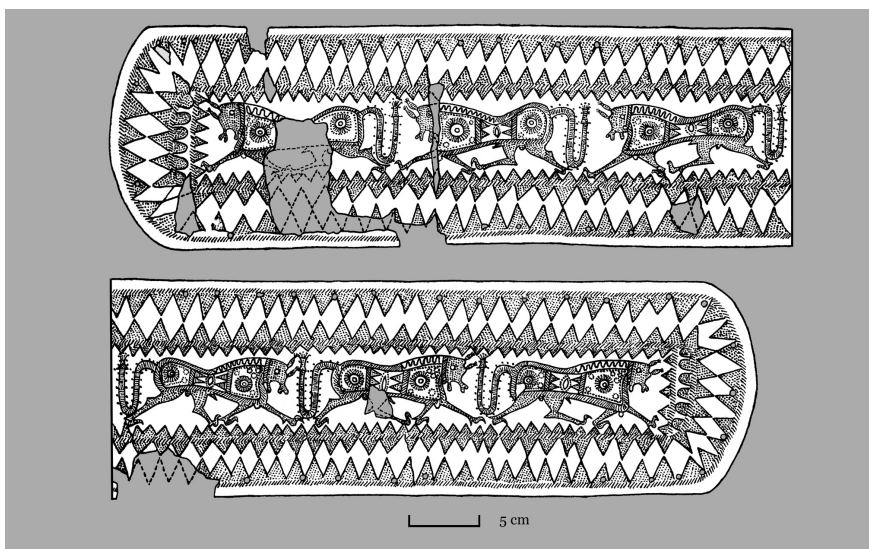


Figure 8.9. Tli Tomb 76. Incised bronze belt (after Tekhov 1977).



1



2

3

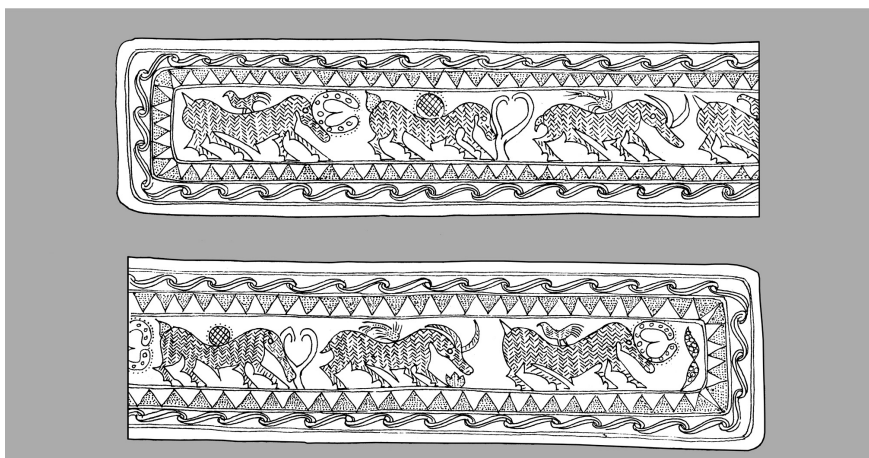


Figure 8.10. Decorated belts: (1) from Tli Tomb 162; (2) detail of bronze belt from Samtavro Tomb 211; (3) Samtavro Tomb 12 (after Tekhov 1981, Chidasheli 1982, photograph A. Sagona).

animals often rendered in a semi-kneeling gallop. These belts include those discovered at Kalakent and said to belong to the Ghodshali-Kedabeg tradition.⁴⁶ Samtavro Tomb 276, dated to 800–650 BC, included a fine example of an engraved bronze belt. The largest fragment depicts a complex and lively scene framed along the top and bottom by four rows of a stylised wave motif (linked spirals). A similar band is placed in the middle of the belt, separating two friezes. Elongated triangles, filled with various motifs, are placed at both ends of the belt, so that they formed a lozenge when it was buckled up. In the top frieze is a row of animals and humans: two stags confront each other in battle; behind one of them stands a pair of hunters and a dog. Other animals depicted include wild boar and birds. The lower frieze has more animals, smaller in size and depicted in a rather haphazard fashion, but without losing any of the vitality. Amongst these animals are two seated individuals (men?) facing each other and holding various objects.

Moulded, hollow animal figurines, ornamented with openwork design (usually swastikas, rows of triangles, herringbone patterns, and sunburst motifs) are amongst the most distinctive items (Figure 8.11). They were standard finials, attached to the vehicle pole, but were also designed as rattles. Bronze balls inserted in the hollow bodies of the figurines ensured they rattled as the vehicle moved along, eventually to be placed in a burial chamber. These figurines are sophisticated in their artistry and technical excellence. The stag and bird figurines from Tsitelgori Barrow I are good examples.⁴⁷ The stag (Figure 8.11(1–2)) has a long cylindrical body, a rounded chest perforated with lozenge and triangular apertures, and a tall neck, which tapers towards the top. The muzzle is long and narrow, and the eyes deeply socketed. Relief swastikas decorate the back and rump, and on the shoulder are oblique lines, originally filled with copper and silver.

Similar figurines have been found at, amongst other sites, Berikldeebi Barrow 4 and Kvemo Sasireti in Georgia, and Lchashen and Artik in Armenia, where the ibex standard held appeal (Figure 8.11(3–6)). The bird standard (Figure 8.11(5–6)), possibly an ibis or pelican to judge from its beak, likewise displays a high standard of craftsmanship. The ball and socket design of some bird figurines, in which the ball-shaped end of the figurine fits into the cup-like depression of the standard (Figure 8.11(1–2)), allowing the figurine to rotate, speaks for a sophisticated technology. Bird figurines – with a high neck, upward tilted head, and lowered tail – were also manufactured in great numbers across the whole culture province, as trinkets and to be attached to pendants. Such was the variety and popularity of these items that local workshops, such as one in Meskheti, catered for specific tastes, producing styles with a restricted distribution.⁴⁸

⁴⁶ Nagel and Strommenger 1985: pls. 20, 22, 26, 41, 43, 55, 56, 66; Culican and Zimmer 1987.

⁴⁷ Abramishvili and Abramishvili 2008.

⁴⁸ Gomelauri 2008: 366.

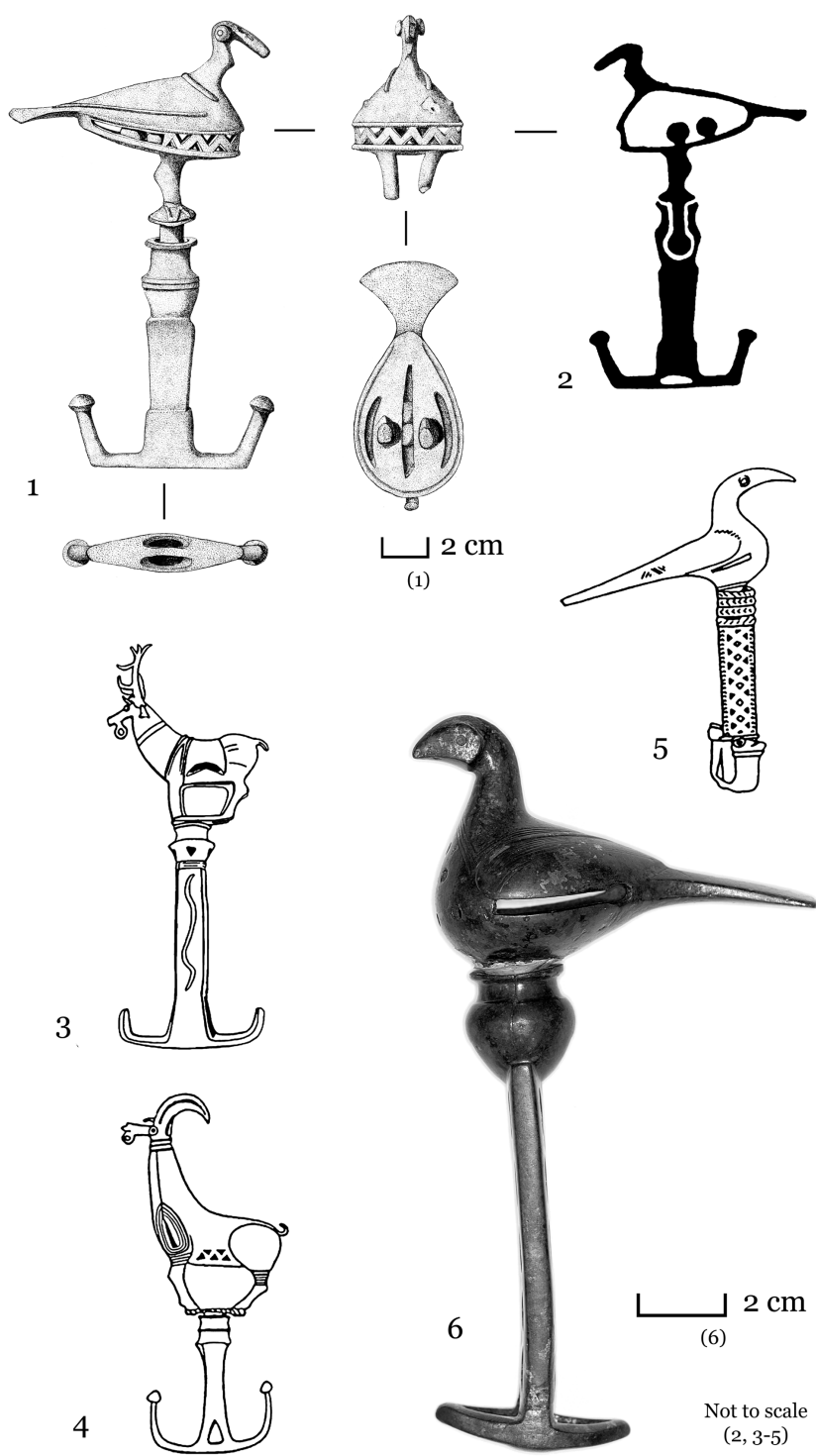


Figure 8.11. Vehicle standards: (1–2) Tselgori Barrow 1; (3, 6) Berikldeebi Barrow 4; (4) Artik Tomb 79; (5) Lchashen Barrow 1 (after Gomelauri 2008; photograph A. Sagona).

A horse must be properly harnessed, whether it is ridden, carrying a load, or towing a vehicle. Thus harnessing systems have long been seen as important for understanding transportation in the ancient Near East, where we see a wide range of snaffles – the mouthpiece (or bit) and cheek-pieces. Although the bit showed stylistic variations, its development was restricted, evolving from a plain bar to a two-piece joint with a swivelling link. In the southern Caucasus, the earliest bits were the two-piece type with circular cheek-pieces that appeared around 1500 BC (Figure 8.12).⁴⁹ The mouthpiece had D-shaped ends, to which the bridle was attached. Although the snaffles from Lchashen Barrows 1 and 10 have circular cheek-pieces, they were apparently attached to a leather thong. Openwork ornamentation, a combination of triangles and circles, enhanced the cheek-pieces' appeal. Bits with flat cheek-pieces are coeval with the circular cheek-piece bits, and amongst the earliest are those that come from Berikdeebi and Astqadzor. The discovery of several pairs of flat cheek-pieces without the mouthpiece suggests that they were often attached to a leather thong. The out-curved cheek-piece and bit with ringed end is a long-lived type (1300–700/600 BC). Snaffles showing Scythian influence and dated to the turn of the seventh and sixth century BC fall outside this culture and belong to the north-western region.

Ceramics

The most detailed studies of Lchashen–Tsitelgori ceramics have been carried out in Armenia, where six regional phases are identified.⁵⁰ Nonetheless, the evolution of pottery production for this horizon is far from clear, owing to the restricted number of precisely dated and stratified sequences. Consequently, the periodisation necessarily relies on the seriation of tomb assemblages and reflects the looseness that entails. Looking at the broad sweep, the main trends are the emergence from a painted late Middle Bronze Age tradition – especially reflected in the continued manufacture of large egg-shaped storage jars, pattern burnishing and certain decorative motifs such as running zigzags – into a horizon that is mostly dark and grey, tending towards more symmetrical and well-produced forms in the later periods.⁵¹

The repertoire of shapes is extensive and includes high-shouldered jars, broad pots, and jars, tankards, jugs with cylindrical necks, and low bowls (Figure 8.13–8.16). Necks on jars and pots tend to be short and straight, or sloping slightly inwards. Occasionally, pots have a tall narrow neck. Most vessels have a flat base, though some were elevated on a disc, a foot or, rarely, on a pedestal. What distinguishes this ceramic horizon is its decoration. Incised and

⁴⁹ Sultanishvili 2008.

⁵⁰ Smith et al. 2009: 68–92; Badalyan and Avetisyan 2007.

⁵¹ On pattern burnished vessels, see Bedianashvili 2008.

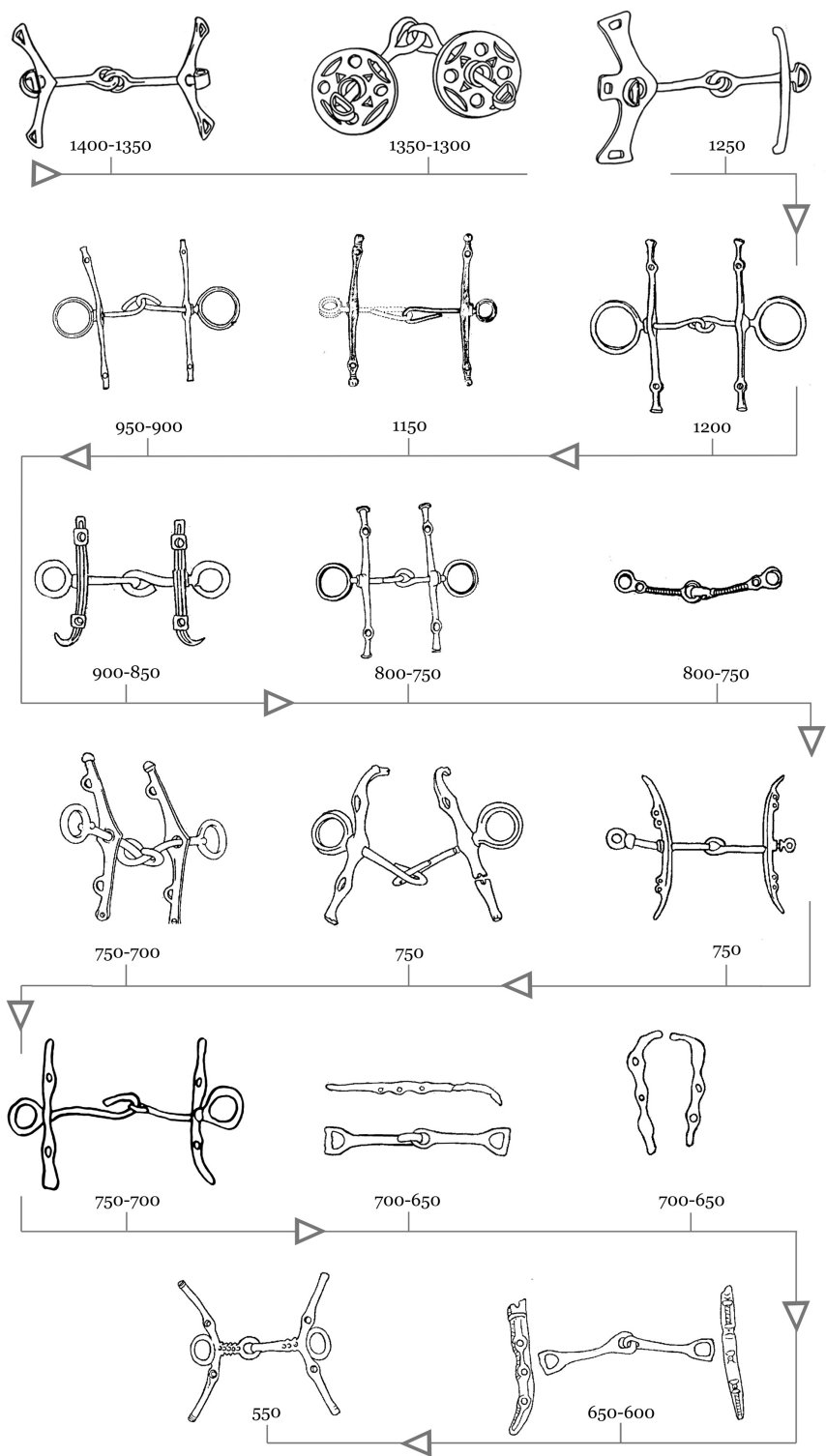


Figure 8.12. Development of south Caucasian horse bits (after Sultanishvili 2008).

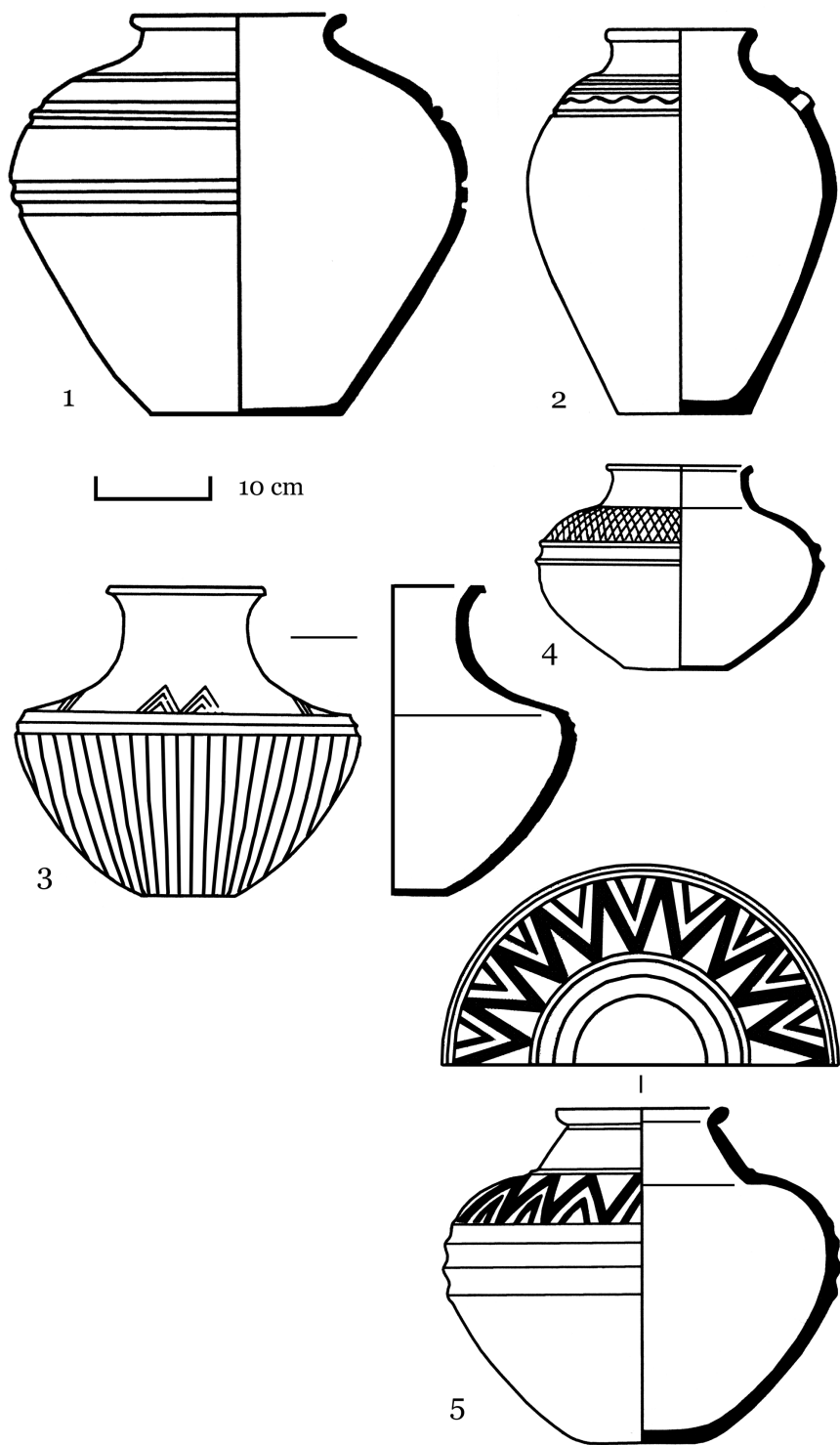


Figure 8.13. Late Bronze Age ceramics from Armenia (after Badalyan et al. 2009).

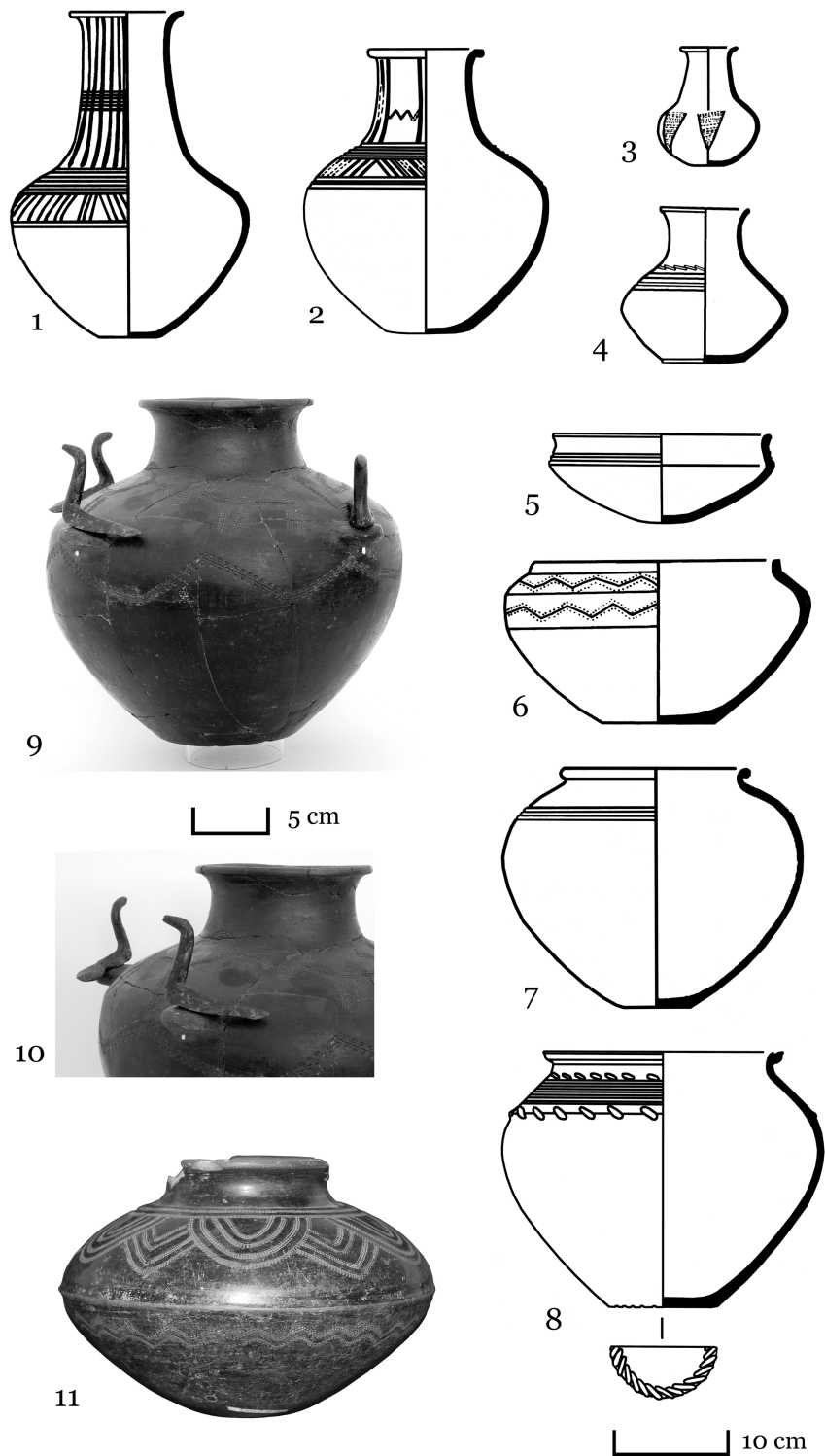


Figure 8.14. (1–8) Late Bronze Age ceramics from Armenia (after Badalyan et al. 2009); (9–11) Late Bronze Age ceramics from Georgia (photographs A. Sagona).

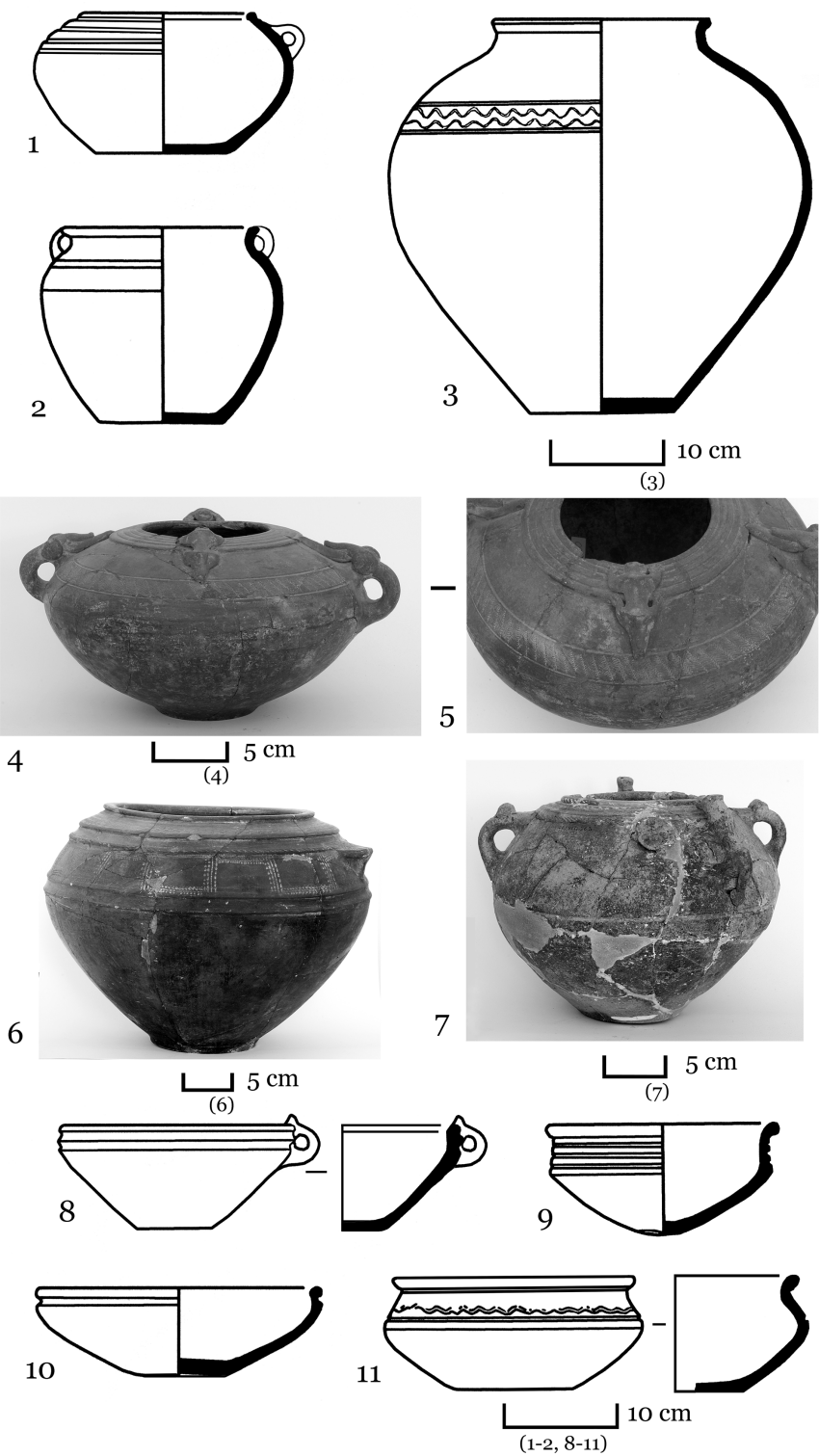


Figure 8.15. (1–3, 8–11) Early Iron Age ceramics from Armenia (after Badalyan et al. 2009); (4–7) Early Iron Age ceramics from Georgia (photographs A. Sagona).

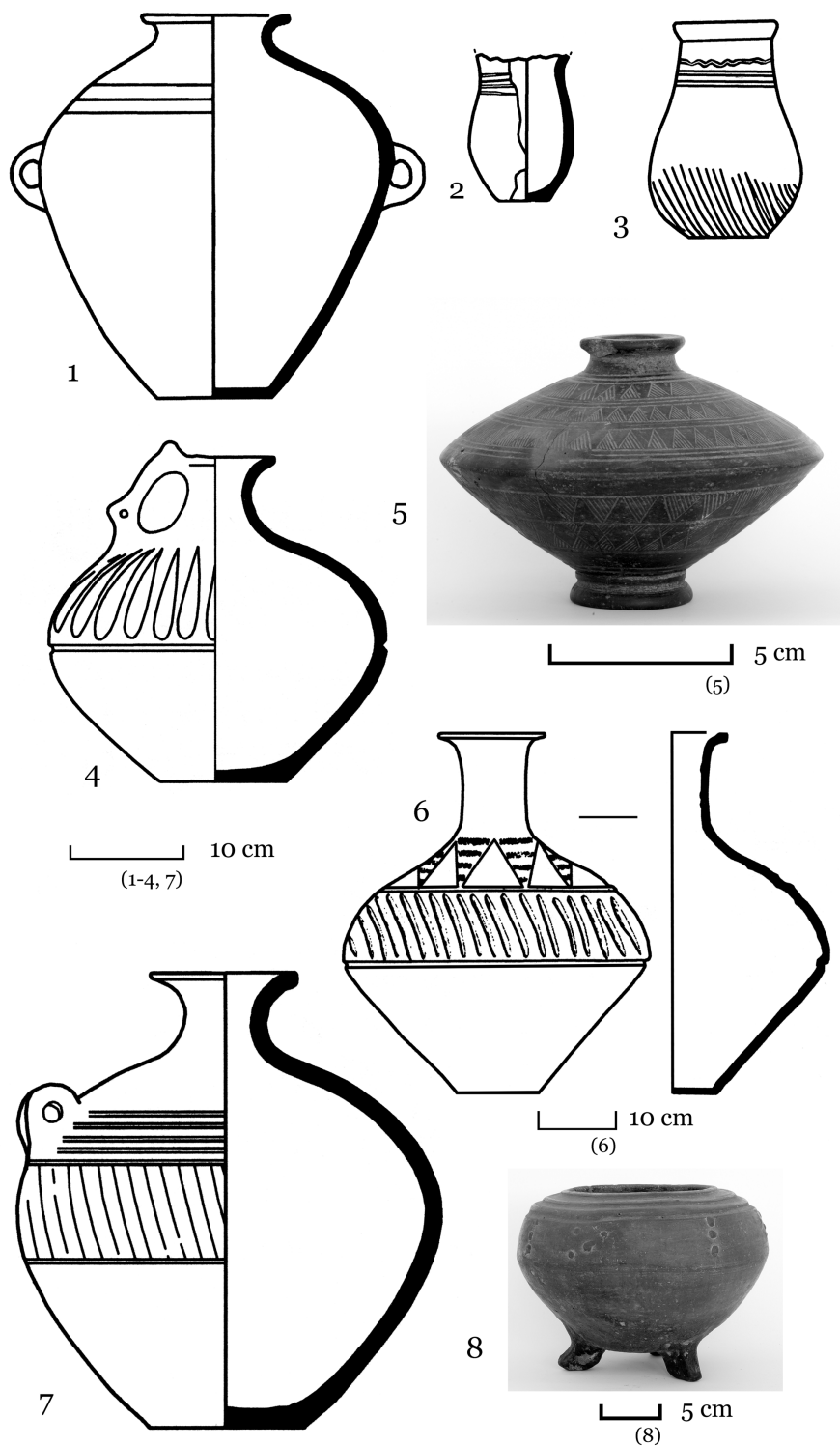


Figure 8.16. (1–4, 6–7) Early Iron Age ceramics from Armenia (after Badalyan et al. 2009); (5, 8) Early Iron Age ceramics from Georgia (photographs A. Sagona).

impressed geometric designs were commonly applied to the upper part of a vessel, though all-over ornamentation is also known. A pair of horizontal wavy lines, herringbone patterns, hatched triangles, and flutings are amongst the plethora of patterns applied when vessels were leather hard. Knobs and zoomorphic plastic fixtures, characteristic in Shida Kartli, were often placed at the top of a loop handle. Before vessels were baked they were polished, but never to the high lustre of previous periods. After firing to a crisp fabric at around 800–900° C, vessels were smoke-blackened, providing them with their final distinctive trait. This repertoire remained essentially unchanged from about 1400 to 700 BC. Although the occasional example of wheel-thrown pottery is found in the late Middle and early Late Bronze Ages, it does not become common until around 1300 BC. Pottery workshops are rare; the best example comes from Chovle Gora in Shida Kartli, where horizontal kilns were discovered in semi-subterranean dwellings.

Chemical analyses (Instrumental Neutron Activation) carried out on ceramic fragments and clay sources in the Tsaghkahovit Plain have provided insights into the movement of clay containers. Not surprisingly, perhaps, the majority of sherds tested were manufactured from local clay sources and circulated within the plain.⁵² But it is the patterns of distribution that are telling. While the community at Tsaghkahovit fortress used ceramics that were manufactured from clay sources in the vicinity, the majority of Gegharot pots appear to have arrived from further afield than its immediate fringe. Moreover, a small but significant quantity (less than 5 per cent of the sherds analysed) were made from a source outside the region altogether. These results suggest that certain sites, like Gegharot, were targeted in the exchange of goods, possibly because the fortress enjoyed a favoured reputation. Sheep and goat remains lend further support to this view of a differential movement of items and goods. The large number of limb extremities compared to other bones seems to indicate that meat arrived at Gegharot already butchered, and possibly wrapped in hide packages tied at the limb bones.⁵³ In an increasingly politicised landscape, then, certain fortresses like Gegharot had power and influence.

The University of Tübingen initiated an important inter-disciplinary project in the Alazani Valley of eastern Georgia that investigated three sites: Tqisbolo Gora, Didi Gora, and Udabno.⁵⁴ The focus on settlements, the precision of investigations, and the concomitant radiocarbon readings have provided a much needed and trustworthy balance of empirical evidence for this region of the southern Caucasus. Udabno was occupied for a relatively short period of time (ca. 1100–800 BC), possibly only three generations, and showed no signs

⁵² Lindsay et al. 2008; Greene 2012; Lindsay and Greene 2013.

⁵³ Monahan 2012.

⁵⁴ Bertram 2008; Goehring 2008 and references therein for field reports; Bertram and Bertram 2013.

of reconstruction. It comprised three sites, with the ‘Citadel Area’, termed Udabno I. The site yielded two basic types of structures: sturdy buildings constructed with field stones in the citadel area (the so-called sanctuary), and pit dwellings sunken into the ground and strengthened along the walls with stone. Excavations and geophysics have detected about 100 houses aligned lengthwise and arranged in three or four parallel lines stretching across 450 m. These semi-subterranean dwellings were found east of the citadel and at Udabno II and III. Fire swept through these dwellings before the site was fully built, but the citadel area remained unaffected. Burnt debris sealed floor levels enabling the identification of the various activity areas – living, cooking, storage and work.

Ceramics from Udabno and Tqisbolo Gora are similar to a certain extent to pieces from the tombs (Figures 8.17–8.18). There are high-shouldered narrow necked jars, pots with rounded bellies and outward flaring rims, handled cups and tankards, tall conical cups, and low wide bowls. Surfaces are smoothed, or given a perfunctory polish. Ornamentation is typical for the period. Designs are none too carefully incised on the surface, or applied with a burnishing tool to form basic geometric patterns.

Sacred Spaces

Three shrines exposed at Gegharot provide the clearest insight into Late Bronze Age cult, the performance of religious activity.⁵⁵ Each was a small enclosed space with similar fittings and arrangement. At the rear of the room lay a large semi-circular basin of beaten clay, elevated on an earthen platform. A stone stela was placed at the back of the basin. In the West Terrace shrine, the most complex of the three, were many in situ pottery vessels and censers scattered across the floor. One censer (or brazier) was elaborately decorated, comprising a rounded top perforated with vent holes that is attached to a tall, splayed stand. From the West Citadel shrine came a series of grinding stones and a curious clay object, found in the basin. Narrow with high sides and tabular in transverse section, it has been referred to as a brazier (a *manghal*), but the openings at both ends might also suggest that its purpose was for the passage of air, and that it was possibly a flue.

The East Citadel shrine had similar accoutrements, and was also used to store and process wheat and drink wine. Further evidence reinforces the cultic nature of the shrines: schematic human figurines; incense stands; an abundance of knucklebones (astragali) of cattle, sheep, and goats; and smooth and rounded pebbles of various colours. This package of features in a confined space has led the excavators to maintain that the shrines were specifically devoted to divination – astragalomancy (divination using knucklebones), lithomancy

⁵⁵ Smith and Leon 2014; Badalyan et al. 2014: 169–86.

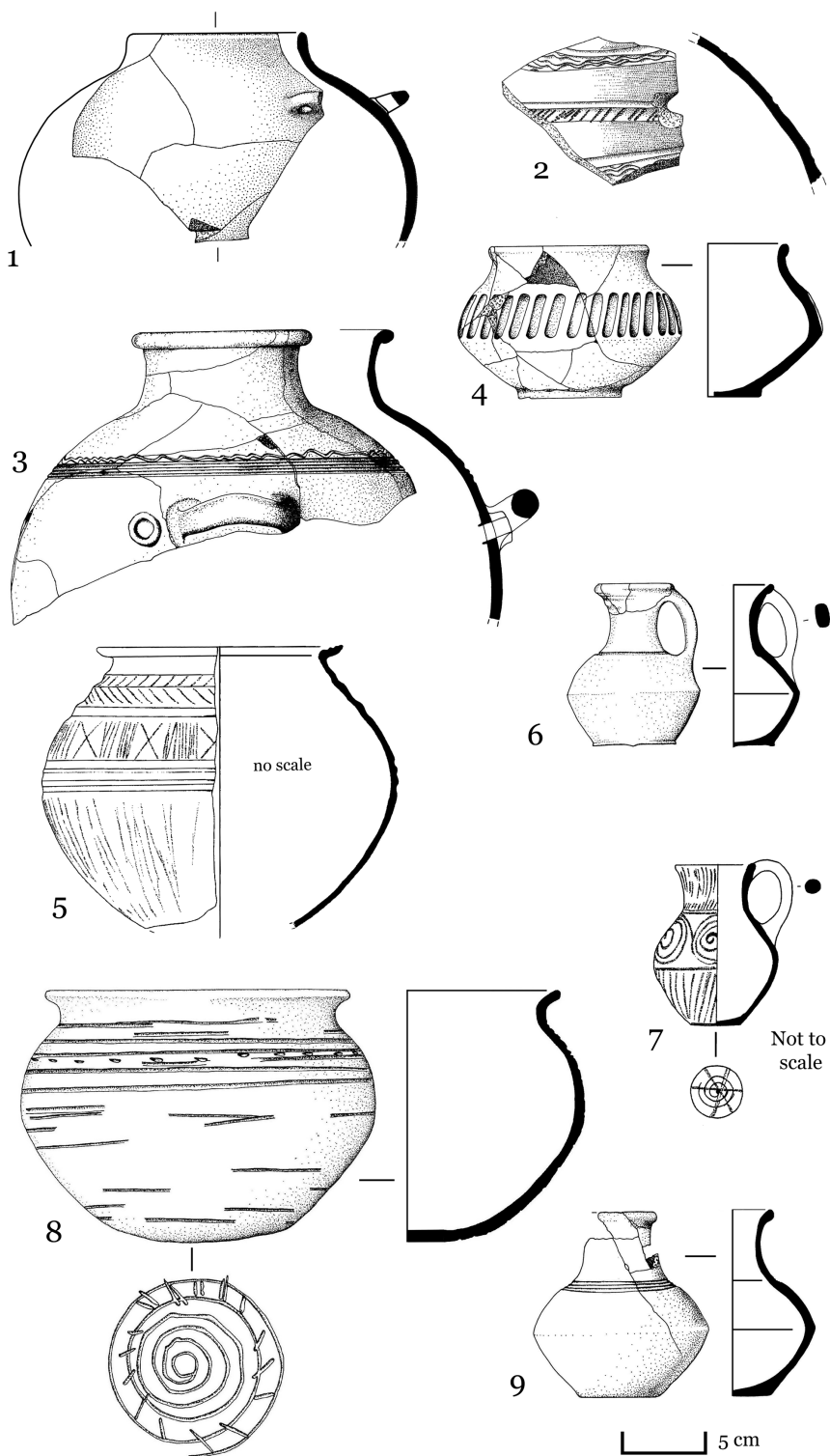


Figure 8.17. Pottery: (1–4, 6–8, 9) from Udabno; (5, 7) from Tqisbolo Gora (after Bertram 2008; Goehring 2008).

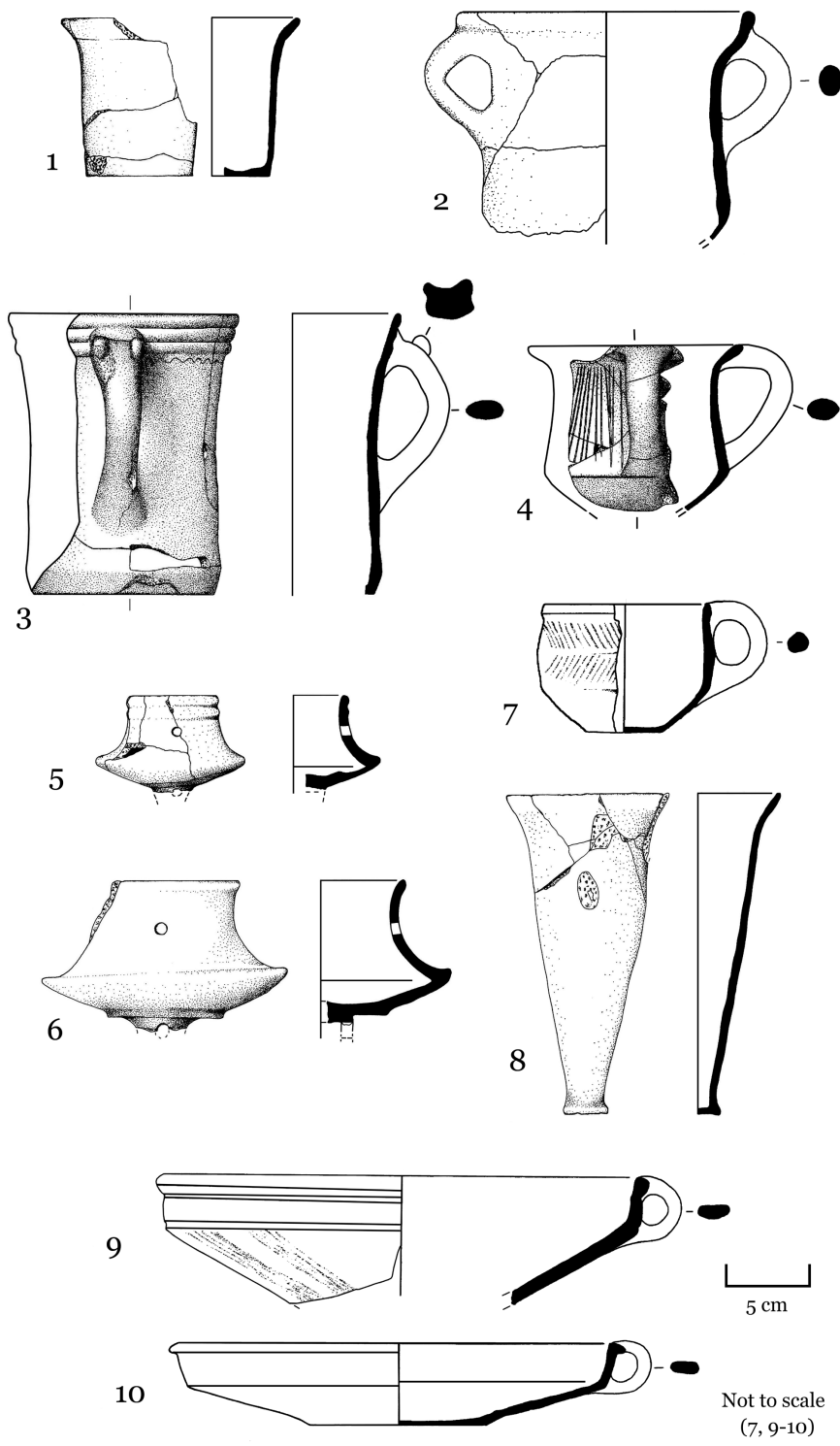


Figure 8.18. Pottery from Udabno (after Bertram 2008).

(divination by stones), and aleuromancy (divination with flour) – used to affirm the sovereignty and power of the new institutions.⁵⁶

Although Smith and Leon draw pertinent parallels with the use of stones in Eurasian shamanic traditions, it is equally possible that the magic of the stones was not so much inherent in their material and shape, but in their colours – black, dark grey, white, green, and red. Colours are deeply symbolic elements with a long history, and they played fundamental roles in magic in the ancient Near East.⁵⁷ Colour symbolism is well documented in Mesopotamia, as is the magic of coloured stones (and dyed wool). Mesopotamians had five core colour terms – four are discrete shades (black, white, red-brown, and yellow-green), while the fifth conveys the concept of polychromy.⁵⁸ These terms agree well with the colours of the individual Gegharot stones and the range of colours overall. In addition to the colours themselves, the Mesopotamians valued luminosity, which they thought reflected the radiance of the divinity.⁵⁹ It is tantalising to think, then, that given the sporadic evidence for cultural connections between Armenia and Mesopotamia, some of the beliefs surrounding colour and stones may have permeated into the southern Caucasus.

A very different kind of sacred space and ritual behaviour is found in Kakhetia. Shilda is a large, oval enclosure bounded by a stone wall that is broken by a causeway on the north-eastern side. Two rectangular stone features flank either side of the causeway.⁶⁰ The main wall is relatively thick, with large field stones defining its edges and the cavity in between filled with rubble. In the centre of the enclosure is a semi-circular feature built with two nested rows of stones. At the southern tip of this feature, the community placed a large brown clay pot and filled it with bronze metalwork. Another vessel was situated at the southern tip of the enclosure and also filled with metalwork, along with a few stone and vitreous beads. Between the semi-circular feature and the southern enclosure wall were three pits, each replete with earthen wares and some bronze objects. No less than 3,457 items were intentionally, and presumably ceremonially, buried at Shilda. Pottery containers, metal moulds and their casts, and bronze figurines are the most common items. The anthropomorphic figurines are noteworthy. Cast using the lost-wax method, they are stylised and rather wiry representations. Despite their diminutive size, an attempt has been made to depict features such as garments, belts, jewellery, and weapons. Personal adornments, buckles, and weapons (daggers, spearheads, axes, and projectile points) found in the pits, though fewer in number, are striking for their technical qualities and level of decoration (Figure 8.6(2–3)).

⁵⁶ Smith and Leon 2014: 556.

⁵⁷ For the seminal work on colour theory, see Berlin and Kay 1969; Hardin and Maffi 1997. On early colour symbolism of red, see Hovers et al. 2003.

⁵⁸ Landsberger 1967.

⁵⁹ Winter 2002.

⁶⁰ Maisuradze and Inanishvili 2006.

Meligele I is a similar site. Here we have a circular area surrounded by large stones and a ditch 2m wide and 60 cm deep.⁶¹ At the centre was a thick layer of ash covered with charred animal bones, mostly of sheep. More than 8,600 objects were found at Meligele I, a good number of them in pits, between 3.0 and 3.5 m deep. The pits were deliberately filled with ash and various objects, including clay vessels and carefully placed stones. They also held carnelian beads, obsidian arrowheads, bronze objects such as rings and fibulae, and stamp seals with a swastika design. Meligele II is similar in construction – a round area, 80 m in diameter, surrounded by a massive stone wall 10 m wide and preserved to a height of 1 m. Within the circle at Meligele II were another three circles defined by stones, which were terraced down a slope. At the interstices of these circles were heavily burnt stones and many objects, including bronze and iron weapons.

Melaani, the third sanctuary in the central south Caucasus, also yielded numerous objects – 1,000 ceramic containers, more than 230 metal weapons, horse harnesses, agricultural tools, bronze belt fragments, and four male statuettes. One of these statuettes, perhaps representing either a warrior or a deity, is naked (Figure 8.6(3)), with short, outstretched arms and well-articulated hands. In the right hand the figure holds a cup. The head is striking, though disproportionately large. It is ovoid with a flat face and detailed features – a pronounced nose, beady eyes below strong ridges and a slit for a mouth. On the top of the head is a knob, representing either headgear or a hairdo. Around the neck is a wide band, almost resembling a neck brace. The figure is bare-chested, and wears an oblique strap over the shoulder, from which hangs a dagger.

Here attention must be drawn to the hoard found in a large ceramic container at Gamdlistskaro, in the Kaspi district of Georgia (Shida Kartli). The items include bronze ingots, hoes, sickles, axes, weapons, bracelets, and belt buckles, which reflect both eastern and western Georgian influence and can be dated approximately to the ninth to seventh centuries BC. By far the most interesting item is a unique bronze item showing a scene with people and animals around a canopied structure (Figure 8.19). The object consists of a flat base (12 x 8 cm) with rolled up edges onto which the figures are attached. Olga Brileva notes that this is the northernmost and largest of four similar items, two of which were found in Urartian fortresses and another of which was a chance find in Armenia.⁶² Each reflects a similar scene – movement of eleven horned animals, probably sheep, in a clockwise direction around an open structure. Some have suggested a dog is also shown. There are also three human figures and a few fixtures that might represent hearths. Each

⁶¹ Pitkhelauri 1973: 112–21; 1979: 50–3.

⁶² Brileva 2011.

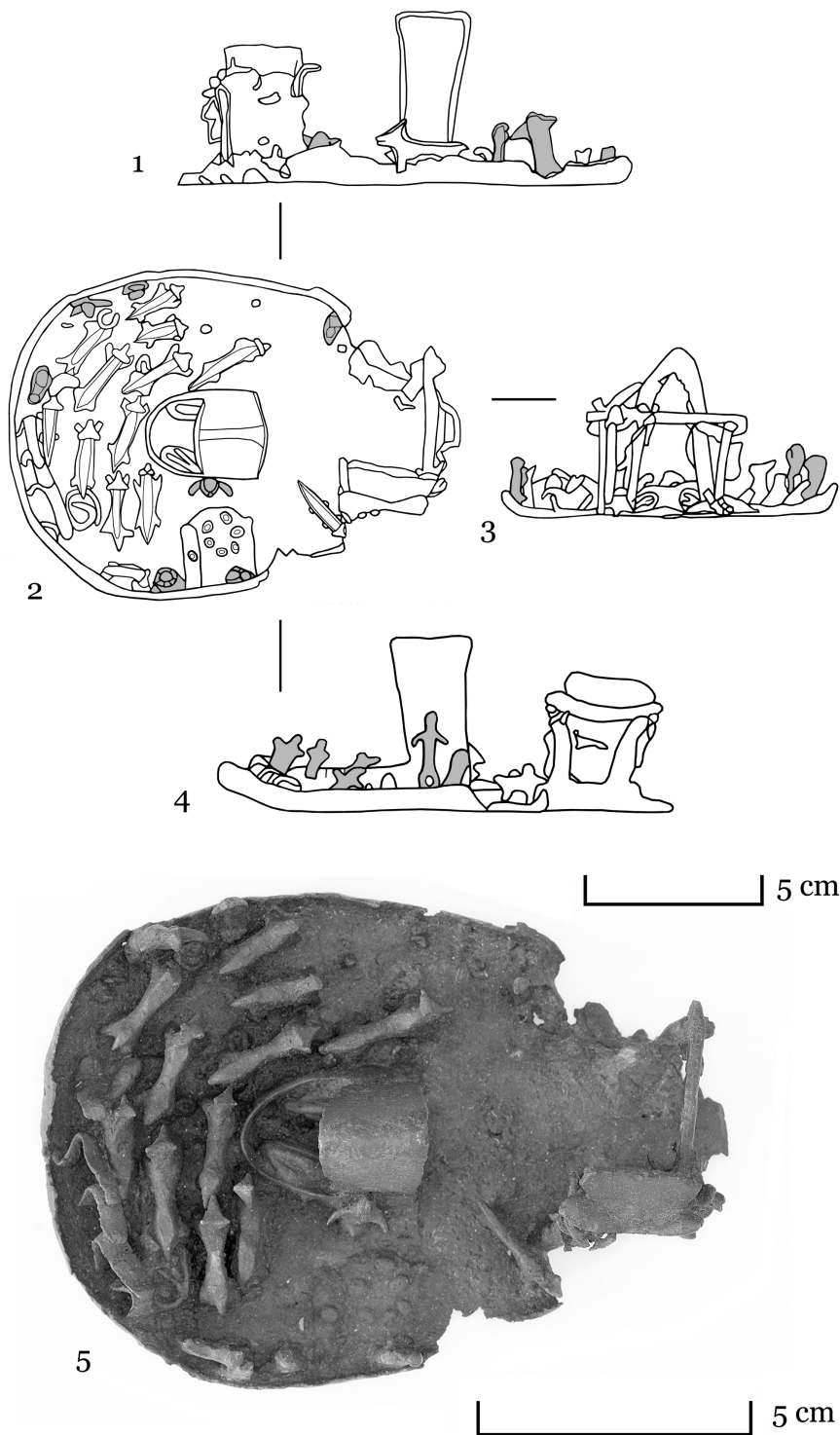


Figure 8.19. Gamdlistskaro, bronze plate showing a scene with sheep, humans and a canopied structure (after Brileva 2011; photograph A. Sagona).

is shown schematically. Various interpretations have been put forward. One views it as a sheep pen symbolising the replenishment of the herd (fertility), while another, drawing on burial practices in western Georgia, suggests that the structure covers a burial pit, and that the scene is connected with the dead. Brileva favours the latter view and believes that the plate represents a Colchian mortuary practice and was crafted by an itinerant Urartian artisan sometime between 750–650 BC. How it arrived at Gamdlistskaro is unclear, but its ritual purpose cannot be denied.

Collectively, this rich assemblage of material from Shilda, Meligle I, and Melaani is typical of the central south Caucasus, yet the mode of disposal is characteristic of a much wider area. The practice of hoarding was particularly favoured in western Georgia, and beyond, in Europe, though the quantity disposed of in Kakhetia is also impressive. Hoarding is discussed when we reach Colchis (Chapter 10).

Menhirs

We should mention, however summarily, the upright standing stones (menhirs, or *vishaps*, in Armenian) that remain one of the most puzzling artefact types of the south Caucasus. Their size can vary considerably, with the tallest standing to a height around 5.5 m and the smallest about 1.5 m. The most common menhir is roughly rounded in cross-section, tapering towards the top, while the other type has a squared section. Geographically, their distribution is well circumscribed. In Armenia, where the greatest concentrations are to be found, menhirs are clustered around the mountains of Gegham and Aragats, and Lake Sevan, located mainly in high altitude plains and meadows ca. 2,000–3,000 m asl.⁶³ Outside of Armenia, menhirs are found in southern Georgia (the Javakheti and Trialeti Plateaux), as well as Nakhichevan and north-eastern Anatolia.⁶⁴ These standing stones are distinguished by their megalithic art and symbolism. One group has images of fish, whereas another has what appears to be a bull or sheep hide draped over the top. Birds, zigzags, and snakes have also been carved onto their surfaces.

Menhirs are difficult to date and their meaning continues to elude us, but it seems they were constructed in different periods. Some menhirs have been erected next to Christian buildings and appear to have a religious significance, while others are positioned near prehistoric cromlechs (in one case, within it) and barrows, suggesting a second millennium date. Identifying their uses remains speculation, but they remain an integral and understudied part of the ritual landscape.

⁶³ Bobokhyan et al. 2012.

⁶⁴ Narimanishvili et al. 2015.

SAMTAVRO AND SHIDA KARTLI

A few words must be said about the site of Samtavro and the surrounding region of Shida Kartli, given that some studies isolate it as a separate early Iron Age ‘culture’. While I do not subscribe to this view, the salient features are worth noting. Samtavro is located on the northern fringe of Mtskheta, a town positioned at a confluence, where the fast flowing blue waters of the Aragvi River meet the more placid murky swell of the Kura. The ancient site consists of a settlement, only partially investigated, and a vast cemetery harbouring no less than 4,400 tombs. To judge from the positions of known burials, the cemetery covers approximately 20 ha. Samtavro is the larger of two ancient cemeteries in Mtskheta, the other being Armaziskhevi, where the élite of late Roman and Antique society and their funerary gifts were buried.⁶⁵ Samtavro attracted the attention of antiquarians more than a century ago, and has continued to be investigated ever since. Four major archaeological expeditions have been carried out at Samtavro; the most significant for the Late Bronze and Early Iron Age was M. M. Ivashenko and Sandro Kalandadze’s expedition, which conducted its investigations during the period 1938–61.⁶⁶ The earliest burial at Samtavro, Tomb 243, can be dated to the second millennium BC, to the barrow period, but the site was most utilised during the Late Bronze and Iron Ages (ca. 1600–300 BC), and then during the late Roman and early medieval periods (ca. AD 100–580).

Burial Types

We are better served on the Late Bronze Age burials at Samtavro than the Iron Age ones, which have yet to be studied systematically. During the Late Bronze Age, the deceased at Samtavro were placed in a crouched position in a rectangular earthen grave, defined at the head and feet by a pair of stone slabs. Planks of wood or tree trunks, covered with a layer of earth or stone, sealed the tomb. A circle of stone placed around the tomb often marked the place of burial. In the Iron Age, stone slabs replaced wooden planks as the roofing material. Single burials are the most common in both periods, with males laid on their right side and females on their left. Cenotaphs, double burials (male

⁶⁵ Apakidze et al. 1958.

⁶⁶ The expeditions are best referred to as Samtavro I–IV: Samtavro I comprises the Freidrich Bayern campaigns (1871–8), carried out under the auspices of the Austrian Archaeological Institute, and those of Ernest Chantre, who followed Bayern in 1879; Samtavro II, M. M. Ivashenko and Sandro Kalandadze’s expedition (1938–61); Samtavro III, the Mtskheta Institute investigations (1976–86, 2000, 2002) led by Andrea Apakhidze; Samtavro IV, the joint Georgian National Museum and University of Melbourne campaign (2008–10). For full references to the Samtavro campaigns, see Sagona et al. 2010. See also Abramishvili 2003 for the Late Bronze Age–Early Iron Age transition, and Sadradze 1997 for the Bronze Age.

and female), and collective burials are rare. The tomb assemblages at Samtavro do not reveal any wealth differentiation. Grave goods comprised metal tools and weapons, jewellery and ceramics. There does, however, appear to be gender differentiation. Tombs with male skeletons invariably had weapons and also remnants of the funerary feast, which consisted of bones of domestic animals (cattle, sheep, goats and pigs), as well as those of wild game (deer and wild pigs). Tortoise shells were also discovered in some graves. Female tombs, on the other hand, had mostly jewellery.

Treligorebi, another large cemetery on the outskirts of modern Tbilisi, is located to the south of Samtavro in a strategic position where the Kura River meanders, emerging from the mountains onto the plains of the central south Caucasus. Treligorebi is an extensive site, stretching about 1.5 km along an elevated ridge overlooking the Kura River. Communities in the area buried their dead there for about a millennium, from the tail end of the Middle Bronze Age Trialeti barrow culture onwards. Then came a change in burial customs. At the end of the fourteenth, or early thirteenth century, rectangular pit graves lined with stone slabs were used. About 100 of these burials have been excavated and some are distinguished by the high quality of grave goods – well-crafted ceramics, bronze and iron weapons, bronze belts, and objects made of faience and semi-precious stones. According to Rostom Abramishvili, the Treligorebi tombs belong to the so-called Samtavro culture.

Around the end of the eighth century BC, a totally different burial tradition was ushered in at Treligorebi and throughout much of Georgia. This new practice is best represented by two rich cremation burials. The architecture of both tombs comprised a wooden mortuary chamber with a flat roof. One tomb, the smaller one, covered an area of 42 m². Although it had been robbed in antiquity, the excavator found, amongst other items, a bull-shaped ceramic vessel, a bowl carved from alabaster with a handle in the form of a sheep's head, and gold beads. The larger chamber had walls 4 m high and covered an area of 70 m². Its assemblage includes 100 zoomorphic rhyta – mainly sheep, though bulls are well represented too – made from well-levigated grey-black clay. Both types had plump, almost spherical bodies supported by short thick legs set firmly on the ground. Sheep are sometimes decorated with vertical fluting, probably representing fleece, whereas bulls had grooved patterns of oblique lines. Another distinctive vessel is a black ceramic container, acutely biconical in shape and decorated all over with rows of hatched triangles, either upright or pendant from a line; for added contrast the geometric pattern is filled with a white paste. Noteworthy bronze objects include a statuette on a pedestal, and standards with attachments in the form of horse heads and other creatures. No less significant are fourteen wood-decorated horse harnesses. Large numbers of carnelian and faience beads, and bronze and iron objects were also recovered.

Settlements

Samtavro also provides a glimpse of Iron Age domestic dwellings. Nestled along terraces on the slope of the hillside above the cemetery, the houses were square in plan and sunken slightly into the ground. Their walls were built with riverine pebbles held together with a mud mortar, which was used to render the walls on both surfaces. Although there is no direct evidence, it is assumed roofs were flat, with the roof of the house below acting as a porch for the dwelling above. Timber poles acted as roof supports. One or two were placed in the centre of the room, whereas the others were positioned against the walls, especially in the corners. Fixtures in the house included an oven, dome-shaped and generally situated in the south-west corner, and a raised platform, one example of which had a high back surmounted by four anthropomorphic clay sculptures. Bell-shaped storage pits were also dug into the floors.

Dwellings at Treligorebi are next to the cemetery and terraced down the slopes of the ridge. Storage in the houses was in ceramic jars set into the floor. One house dating to the eighth–seventh centuries BC contained wheat and grape seeds, also found at Narekvavi in a contemporary context.⁶⁷

THE TALISH TRADITION

Of the Late Bronze Age to Iron Age I traditions, we know least about the Talish, which occupies the mountainous south-eastern corner of Azerbaijan. Its cultural connections extend along the southern shores of the Caspian Sea into the provinces of Gilan and Mazandarn in Iran. We are still very much dependent on Jacques de Morgan's important early work in the Lenkoran region, which he carried out with his brother, Henri, from April through June 1890, though more recent studies, including a number in northern Iran, are starting to bring this tradition into sharper focus.⁶⁸

At present, our picture of the Talish is dominated by evidence from burials, though recent French–Azerbaijani excavations at Cucu Tuk have exposed sections of a circular building that look promising. Other important cemetery sites are Kraveladi, Mistail, Hovil, Cönü, Amarat, and Monidigah. Four types of tombs have been recorded in the Lenkoran (also Lankaran) Valley on the Caspian Sea. One is a stone cist tomb of the variety we have already

⁶⁷ Abramishvili et al. 1997: 26.

⁶⁸ De Morgan 1896: 13–125. For early discussions, see Iessen 1935 and Schaeffer 1948: 404–43. More recent studies include Makhmudov 2008, Castelluccia 2016, and those that concern the Gilan and Mazandarn region in Iran, such as Piller 2012. Based on a paper (Ritual and Burial Practices during the Late Bronze and Early Iron Ages in the Southern Caucasus) delivered at the Caspian Sea Shores conference (Saint-Germain-en-Laye, 4–5 December, 2015), the new French–Azerbaijani Archaeological Mission to the Lenkoran Valley, initiated in 2012, holds many prospects.

encountered – an earthen pit lined with stones of varying sizes. It is covered with a tumulus of earth about 3 to 4 m high that has a diameter measuring no more than 10 m. In general, a few individuals were interred in the chamber. The second type is a cromlech – a single row of stones – sometimes the stones did not abut each other – encircling a stone cist tomb sealed by a heap of stones. Rectangular, oval, and circular cist tombs were reported. Another group of chambers is distinguished by its plan: one end is squared-off and sealed by a large slab of stone that was stood on its edge, whereas the opposite end was intentionally shaped into an apse with smaller stones. Finally, there are the dolmens, built with megalithic stones and sometimes with a pitched roof capped with a large stone. These belong to a different cultural tradition to those discussed in Chapter 6, though they share similarities in terms of funerary customs. Usually found covered with a mound of small stones, these impressive structures are a distinguishing feature of the Talish region. Overall, the stones used for all four types were field rocks that required minimal shaping to flatten one side, which generally faced the interior of the chamber.

Mortuary practices varied from tombs without a skeleton to others that housed multiple burials. Even graves without a skeleton always had some funerary items: Kraeladi Tomb 11, for instance, contained five clay vessels and a bronze pin; Tomb 40 had two vessels and a spearhead.⁶⁹ Quite a different custom is seen in the oval cist tomb from Veri, where four individuals were interred. At one end of the tomb were a cluster of long bones and a skull. Another skull was positioned in approximately the centre of the tomb, and the two others were placed along the wall. Each skull was surrounded with small bronze items, mostly jewellery, and five swords (two crossed) were placed in one half of the tomb. On top of this deposit of metalwork were eleven clay vessels. Clusters of long bones, skulls and grave goods are found in another tomb at Veri, which contained two individuals.

Dolmens also do not appear to conform to any one burial custom. One structure at Hovil had an individual skeleton on its back, flanked by pots and covered with bronze weapons – a sword was placed across the upper legs.⁷⁰ Another dolmen at Vanu Barra had two chambers. In the larger compartment, the skeleton was found on its left side, knees bent, and behind its back were ten pots; while in the smaller chamber, mourners had placed a solitary jar. Yet another variation was documented at Cönü, which contained six individuals whose long bones were roughly clustered around their skulls.

The cultural connections of the Lenkoran region of Azerbaijan extend along the southern Caspian Sea littoral into the Persian Talish region, where several sites – including Marlik, the burial place of a rich and powerful dynasty – are situated. As we have noted elsewhere, the artisans and local smiths – gold, silver,

⁶⁹ De Morgan 1896: figs 22 and 23.

⁷⁰ De Morgan 1896: fig. 34.

and bronze – of this highland region blended their own traditions with the tastes arriving from neighbouring territories. Connections are especially clear in jewellery and personal ornaments, weapons, and ceramics.⁷¹

There are swords and daggers of the types we have encountered, but with variant features. Some have a tanged triangular blade and sloping shoulder with three rivet holes to secure the handle. Others are cast in one piece with a raised ricasso at the hilt to accommodate bone or wood. These weapons are distinguished by a raised midrib running the full length of the blade and a circular motif placed just below the shoulder. The most eye-catching, however, is the broad-shouldered dagger with a wide crescent-shaped pommel. Beads of one shape or another, some bearing granulation, and round pendants with astral symbols hammered into relief from the back share similarities with items from the Persian Talish and also Armenian sites of the Lchashen tradition.⁷² But perhaps the most telling sign that the Lenkoran region is linked to northern Iran is seen in its ceramics, in particular the footed drinking cups with a pair of handles, and *ryhta* with extended spouts that recall the vessels with bridge-less spouts from Iran. Schaeffer's early study placed the material from Mistan and Razgour within the period 1550–1450 BC, with Veri still later (1450–1350 BC). This attribution is about right, but can now be brought in line with the growing evidence from Iran.

CONCLUSION

Around the middle of the second millennium, the southern Caucasus witnessed the rise of a new social order and the transformation of the built environment. If the period before 1500 BC in the southern Caucasus might be dubbed the 'Age of Elites', the economic, social, and political changes that occurred after that date, before the advent of empires, might warrant the term the 'Age of Sovereignty'. This takes a cue from work carried out in Armenia that has shown that with the emergence of fortresses we see the rise of political authorities.⁷³ We do not know these sovereigns by name – literacy did not appear until the mid-first millennium BC – yet we are aware of the changes they initiated. Dramatic alterations to the physical landscape like digging irrigation channels and the asymmetrical distribution of materials across the territory point to some form of early polity.

Although the eight or so centuries we have just covered have attracted much attention amongst researchers, it is not possible to isolate events with any historical precision. Even so, we are able to note certain key developments that affected the southern Caucasus. A marked trend towards fortification is

⁷¹ Piller 2012, especially n. 25.

⁷² Piller 2012.

⁷³ Smith 2015: 154–85.

visible. At present, detailed studies in the southern Caucasus have come out of Armenia, where quite a number of forts on hilltops have been recorded. Similar field work needs to be carried out in neighbouring southern Georgia, eastern Anatolia, and north-western Iran, areas that also harbour these hill forts. Communities in the Tsaghkahovit Plain practiced an agro-pastoral economy, with herding strategies focused on secondary products. The presence of enclosures across the landscape suggests that the built environment comprised a range of settlement types from permanent to seasonal.

While the ostentatious burials of the early second millennium disappeared, bronze metallurgy peaked in terms of technical sophistication, diversity and quantity. Metal weaponry, horse trappings, and jewellery formed part of the large provisions in burials. Given the explosion of bronze-work across the Caucasus generally and the 'sameness' of artefact types it seems that not only was knowledge transferred, but objects too were moved considerable distances before they reached their final destinations. Even ceramics, we are now learning, were part of this movement, though it is more likely the commodity they contained than the vessels themselves that was in demand. All this is evidence of powerful exchange networks.

CHAPTER 9

SMITHS, WARRIORS, AND WOMENFOLK: THE KOBAN CULTURE OF THE NORTHERN CAUCASUS (1400–600 BC)

When Ernest Chantre, deputy director of the museum of Lyon, began excavations in 1881 at the necropolis of Koban, south-west of Vladikavkaz, during his second mission to the Caucasus, little did he know that his findings would become a lynchpin in the archaeology of the region for many decades to come.¹ Several cemeteries situated amid rocky crags and foothills have yielded a staggering amount of sophisticated bronze objects. A multitude of weapons, jewellery, horse gear, and much more besides, collectively known as the ‘Koban Culture’, attest to the skilfulness and creativity of the artisans – metalsmiths whose workshops are to this day barely understood. The tonnage of metalwork also speaks loudly for the appetite these mountain communities had for bronze objects, and the role that these items played in the social and ritual life of the highlanders.

Almost all our evidence for the Koban culture is derived from grave provisions and hoards, even though many settlements are known. Despite this lopsided view, there is a deeply embedded sense of place. At Koban, for instance, where more than 600 burials have been documented, there is a long and conservative ritual tradition inextricably coupled with the land. These burials and their furnishings also reflect a new social outlook. Communities now assumed a corporate structure whose members were identified as part of a group rather than as individuals. This horizontal organisation, in which gender was clearly defined, did not promote the rise of elites and vertical social ranking, instead it stimulated a series of clearly defined territorial networks through which material culture was exchanged and adapted. Hence, tomb assemblages across the northern Caucasus have a sameness in terms of artefact categories, yet are distinguishable in terms of locally specific designs.

¹ Chantre 1881, 1883, 1886. See also Virchow 1883.

The built landscape also reflected this change in socio-political organisation. Settlements, characterised by a new type of stone architecture, began to appear in the highest altitudes. Their distinctive plans of juxtaposed rooms arranged in a linear or symmetrical plan around a courtyard, quite different to the fortresses in the southern Caucasus, do not reflect a hierarchy. They do, however, point to labour organisation and a strong sense of group identity. Equally significant is the appearance of animal enclosures, suggesting the important role of herding and pastoralism in the subsistence economy.

Broadly speaking, the distribution of the Koban cultural province straddled the densely settled landscape of southern Russia, stretching over the Stavropol Plateau around Kislovodsk through Krasnodar, Karachai-Cherkessia, and Kabardino-Balkaria to northern and southern Ossetia (Figure 8.1). At its western end it merged with the fringe of the Colchian cultural province, which occupied the eastern Black Sea littoral around the Taman Peninsula. Koban communities avoided the Caspian Sea, making the region around Alleroi in eastern Chechnia their easternmost extension. The Koban cultural province encompasses a range of different ecological niches within mountains and foothills, and in some studies it is segmented into western, central, and eastern regions.

KOBAN AND COLCHIAN: ONE OR TWO TRADITIONS?

The relationship between the Koban culture and that of Colchis (western Georgia), discussed in Chapter 10, is a contentious one. There are those who prefer to clump the two traditions together on the basis of typological similarities between metal objects and the occurrence of Koban objects south of the Caucasus range, such as in Shida Kartli. This group considers Koban and Colchis variants of a larger cultural complex.² While interconnectivity cannot be denied, metalwork in itself does not constitute an archaeological culture.³ The position taken here is to separate Koban and Colchis, a view warranted, to my mind, by differences in other cultural features, most especially settlement and burial types, and other material things, such as ceramics.⁴ Essentially, I argue that the metalwork of this period was shared by the elites of this vast region, which had a multi-ethnic character. Hence, social identity at this time was represented by variability in certain elements such as burial types, yet at the same time social ideology was best expressed by portable metal objects. Moreover, as discussed in Chapter 10, Colchis of the Late Bronze and early

² For views that unite the Koban and Colchian cultures, see Gogadze 1982; Reinhold 2007; Apakidze 2009.

³ According to Tekhov (2002), the origins of the Koban are to be sought in the Shida Kartli region, a view that is not shared by many.

⁴ Others who share a similar view, but for different reasons, include Dzhaparidze 1950; Krupnov 1960; Tekhov 1977, 2002; Pantskhava 1988; Kozenkova 1996.

Iron Age was deeply rooted in local traditions extending back into the second millennium, if not earlier.

KOBAN: ITS PERIODISATION AND CONNECTIONS

For our purposes, we can divide the Koban culture into two broad chronological phases: the earlier incorporates the Late Bronze Age to Early Iron Age (ca. 1400–600 BC) period, originally referred to as ‘pre-Scythian’; the second phase (ca. 600–400 BC), or the Late Iron Age, is characterised by the dramatic intrusion of Scythian material culture and customs.⁵ Even today, with the ready availability of radiocarbon dating, this schematic timeline relies mostly on attempts to link Koban grave provisions with those found in sequences of neighbouring lands.

From the earliest days of research in the nineteenth century, scholars looked towards Europe for answers. Thus, Chantre saw similarities in the central European Hallstatt culture, which had only just come to light, and more than a century later appeals are still made to the Late Bronze Age of Central Europe (BzD), attributed to the Urnfeld Culture.⁶ Others, such as Iessen, thought that Eastern Europe was a better source of influence.⁷ Neither of these Europe-oriented perspectives is very persuasive, because we simply have no trail of material from Europe to the Caucasus, as would be expected of an interaction network. Southward-looking studies began with Kuftin, whose loose connections with Urartu gained little traction, and Claude Schaeffer, who saw the iron objects from Koban as chronologically significant, bracketing them between 1200 and 1000 BC.⁸ The most plausible views on regional connections are those that look towards western and central Georgia – Colchis and Shida Kartli – where similar metal objects point to corridors of communication between the northern Caucasus and regions further south.

We owe the first rigorous internal assessment of the Koban culture to Evgenii Krupnov. In his milestone study, he detailed the rise and fall of Koban material culture – a formative period followed by an apogee and a decline under Scythian influences – all encapsulated within five or six centuries (ca. 1100–500 BC).⁹ Valentina Kozenkova has refined Krupnov’s developmental sequence.

⁵ Kozenkova 1996.

⁶ Chantre 1886: 40–100; Terenozhkin 1976; Kozenkova 2004. The Urnfeld Culture, the Late Bronze Age of central Europe, is generally assigned to the period from BzD (1300–1200 BC) through Hallstatt A and B (1200–750 BC), according to Paul Reinecke’s (Reinecke 1965) chronological system. Following this are Hallstatt C and D (750–475 BC), attributed to the European Early Iron Age. For a brief overview of the European Iron Age, see Wells 2012.

⁷ Iessen 1951. More recent support for a European connection comes from Reinhold (2007).

⁸ Kuftin 1941: 50–64; 1949; Schaeffer 1948: 533.

⁹ Krupnov 1960.

Using specific tombs and diagnostic artefact types she has suggested that the Koban culture experienced four main cultural phases (Koban I–IV), extending from 1400 to 400 BC.¹⁰ Further detailed studies by Sabine Reinhold and new radiocarbon readings from sites in the high mountains around Kislovodsk confirm this broad timeline. Most exciting is the recent fieldwork carried out in high altitude regions, where intriguing stone structures have radiocarbon dates reaching back to about 1700 BC. That these Middle Bronze Age structures might eventually have led to the formation of the western Koban culture is a most persuasive idea.¹¹

SETTLEMENTS

Koban settlements have received much less attention than they deserve. According to Kozenkova, villages occupied a diverse range of environments, and are spread from lowland plains to mountain altitudes in excess of 1,000 m asl. In recent years, these altitudes have been dramatically extended through the use of high-resolution satellite and aerial imagery, by means of which scores of structures have been detected within the 1,600–2,000 m belt.¹² Sites can be situated on the tops of mountains, on the edges of steep river terraces, on rocky promontories, usually at the confluences of rivers, and also along riverbanks and lake shores.¹³

Settlements were not artificially fortified, but natural features such as ravines and lookouts were skilfully used as defensive features, enhanced occasionally by ramparts and moats. The size of the villages can be estimated mostly by the extent of sherd scatters across the ground surface. Some are relatively small, falling within an area of about 60 x 30 m, whereas others, such as Zol'skoe 1 and Uchkulanskoe, can be as large 1,000 x 400 m. Most settlements, however, fall between these two extremes, measuring about 1 or 2 ha, and are oblong or oval in plan. Although many are single-settlement sites, it is common to find historic (Sarmatian) overburden on others. Although some villages were isolated, there is a tendency for settlements to cluster, suggesting that communities may have had regional economic networks.

But it is Serzhen-Yurt, in Chechnia, with its arrangement of nineteen structures that has the clearest plan.¹⁴ Post-built with wattle walls rendered in clay, the dwellings comprised a series of units separated by narrow cobbled paths. Each house had habitation and processing areas, where stone and bone tools were shaped and food prepared. Amongst the fittings are bell-shaped storage pits, with a narrow opening (ca. 90 cm) and measuring larger than ca. 1.3 m

¹⁰ Kozenkova 1996: 89–106.

¹¹ For a table of radiocarbon readings, see Reinhold et al. 2012: 11.

¹² Reinhold et al. 2012.

¹³ Kozenkova 1989: 62–9; 1996: 33–40.

¹⁴ Kozenkova 1992.

across the flat bottom. Pits were situated around the food processing area and were filled with ash, fragments of stone grinders, and pottery sherds. Remnants of bones suggest that the community hunted and fished, farmed and kept livestock, mostly pig and large horned cattle. The preponderance of pigs (some 382 individual beasts) suggests a sedentary community, though pig rearing does not necessarily preclude some form of community mobility.¹⁵ In the western sector of the Koban province, livestock was primarily sheep and goats. Kozenkova appeals to the notion that the western Koban settlements constitute a type that derives from centuries earlier, and indeed she argues that it continued well into the historic periods.¹⁶ Without any robust evidence, this idea cannot be substantiated. Even so, judging by the size of the settlement, its metre of cultural deposit, and the length of occupation (late second through first millennium BC), Serzhen-Yurt was a favoured village.

Symmetrical and Linear Structures

Amongst the most intriguing and exciting structures are those recently discovered in the highest altitudes, above the 1,400 m mark (Figure 9.1). Clearly visible from the air, these stone structures are in some cases preserved up to 1.5 m above the ground. In their day, they would have supported a wooden superstructure. In general, these sites are perched on the edge of ravines near springs.¹⁷ Investigations in the Podkumok River valley in the Pyatigorsk district have documented 282 Late Bronze Age archaeological sites in this area alone.¹⁸ The majority of sites are settlements interspersed across the landscape with pastoral enclosures and menhirs. Three types of settlement have been discerned. Those with a symmetrical plan comprising rows houses of equal length enclosing a courtyard are the most common. Their houses are double-roomed, sometimes with an apse at one end. Rows of small, square, one-roomed houses arranged in a linear fashion form another settlement type, while the third group has a more or less circular arrangement. A series of radiocarbon readings has provided a developmental sequence stretching from linear settlements (1600–1300 BC) through those with an ovoid or roughly circular plan (1500–1300 BC) to symmetrically planned settlements (1400–900 BC), which are the most numerous.¹⁹

The strategically positioned Gumbashi, located south of Kislovodsk, is provisionally categorised as a ‘fortress’. An initial magnetometry survey revealed

¹⁵ Kozenkova 2001. On pigs amongst the Hittites and Kaska in Late Bronze Age north-central Anatolia, see Glatz and Matthews 2005: 57.

¹⁶ Kozenkova 1989: 63; 1992: 1.

¹⁷ Reinhold 2016.

¹⁸ Reinhold et al. 2007; Reinhold et al. 2012. Cf. Kozenkova’s (1989: 62) earlier survey of settlements, which mentions just eighty sites.

¹⁹ Reinhold 2016.

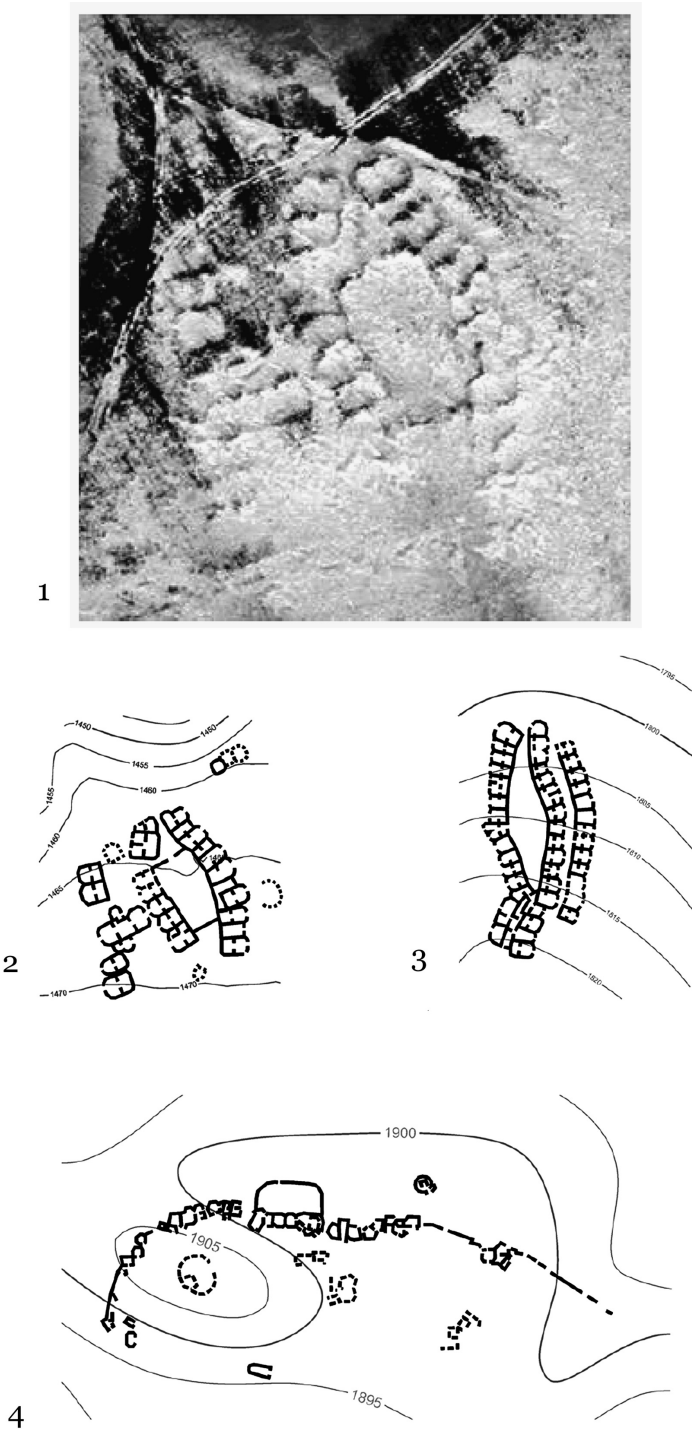


Figure 9.1. Stone architecture: (1, 2) settlement with symmetric plan, Kabardinka 2; (3) settlement of Pokunsyrt II; (4) linear settlement of Pokunsyrt IO; (after Reinhold et al. 2012, photograph courtesy S. Reinhold).

an agglutinative settlement layout comprising rectangular rooms with rounded corners, some with internal walls dividing the dwellings into two equal halves. Trial excavations confirmed the plan – a linear village comprising two rows of stone dwellings, most sharing one or two walls, and each house provided with an entrance. Large fieldstones delineate their inner and outer walls, while rubble filled the gap in between. Their superstructures might have been wooden. Flat stones, packed down into the floor, provided a firm surface.

A similar plan has been documented at Kabardinka 2, where House 23 has yielded a date of 1600–1300 BC. House 14, on the other hand, is assigned to ca. 1400–900 BC (Figure 9.1(1, 3)).²⁰ This later expression is a sturdier and more developed form, with walls up to 2 m thick. One end is apsidal-shaped. Some of the smaller structures may have been animal pens, pointing to highland pastoralism, an idea confirmed by soil analyses and animal bones. Kill-off patterns indicated that herding strategies targeted secondary products for sheep and goats, while cattle were kept for meat. Some of these structures were seasonal encampments, while others were no doubt permanent year-round dwellings.

One thing is clear, namely that to build these structures would have required a considerable labour force, implying some form of community organisation. Pokunsyrt 10, for instance, measures 300 m across (Figure 9.1(2)). Its curved concatenation of symmetrical rooms defines the edge of an open space. Linear or sinuous formations of regular rooms and enclosed spaces are recurring themes in this environment. Curiously, however, the entrances to houses are on the exterior wall, suggesting that the open spaces were animal pens rather than communal courtyards. In other regions, settlements (Perkal'sko and Ullubaganaly) had exterior wooden fences, indicated by rows of postholes, perhaps delineating the boundaries of animal enclosures. Inside the dwellings, large circular holes (20–25 cm) centred on the paved floor are the remains of posts that presumably held up a pitched roof.

TOMB TYPES AND BURIAL GROUNDS

Owing to the richness of the northern Caucasus burials, many cemeteries were plundered in the nineteenth and early twentieth centuries in the rush to fill museums and private collections. Consequently, much contextual information has been lost, especially at Koban, whose 600 or so burials were a magnet for antiquarians. Balancing this are the cemeteries of Tli and Styrfaz in southern Ossetia, which were systematically excavated after World War II. Other important sites are the cemeteries in the Kislovodsk area and Serzhen-Yurt in Chechnia.

Looking at the region as a whole, one characteristic becomes immediately obvious — the diversity of funerary rites. In a thorough recent study, Nikoloz

²⁰ Reinhold et al. 2012.

Gobejishvili has identified eight main tomb types for the Late Bronze–Early Iron Age period in the Koban cultural province:²¹

1. **Simple earthen pits approximating a rectangle or oval in plan:** this type comprises over 43 per cent of the tombs from the northern Caucasus, and most contain a single flexed inhumation. They are common at Tli, Styrfaz, and Koban. Although at certain eastern sites, such as Komarovo and Tli, position appears to have meaning – males were placed on their right sides, female on their left – on the whole, there is no coherent pattern in relation to position or orientation. Individuals were buried with full costumes and accoutrements that reflected their sex, age, and social standing.²² Cremation or secondary burials are not features associated with these simple pits.
2. **Earthen pits covered with a stone embankment:** this type is not common, having been documented at four sites spread across the culture province – Kumush, Mineral Baths area, Nesterovskaia, and Muzhichi – that are assigned to the sixth and fifth centuries. The large quantity of ash and burnt human bone in the pits indicates that the dead were burnt in situ, accompanied by a funerary feast, to judge by the animal bones.
3. **Earthen pits defined around the edge by a ring of stones on the surface:** a rare variant of the pit grave, found at Ullubaganaly in the Karachai-Cherkessia district and at Tli, where, following tradition, the dead were placed in flexed position. The former site is dated to about 650–550 BC. At Styrfaz, Tekhov investigated eleven stone circles, with burials under a stone mounds at their centre.²³ Circles 10 and 11 were mass burials, possibly a family grave, containing the remains of eleven individuals, each placed on their right side, but with no particular orientation.
4. **Earthen pits with a timber framework:** these burials are largely a Koban feature, attested at Tli (Tombs 129, 293, 300, and 301) and Muzhichi (Tomb 6/70), in Ingushetia. Their walls were panelled with wooden planks, and their roofs covered with boards. Most of these timber-framed tombs were not differentiated on the surface, but a variant at both sites had a layer of stones that sealed the tomb opening.
5. **Collective burial vaults:** these stone-built structures date to the end of the second millennium BC and are invariably associated with cremation rites. Collective burials are not common, though they are well

²¹ Gobejishvili 2014.

²² Reinhold 2003, 2005a.

²³ Tekhov 2000.

documented at Verkhnaia Rutkha, Chmi, and Galiat-Faskau amongst other early sites.²⁴ The most striking of these occur at Verkhnaia Rutkha where excavators unearthed, at a depth of 1.5 m, a so-called crematorium, reported to have contained more than 50 individuals, including children. The late Middle Bronze Age tomb comprised a matrix of burned human bones, clay, ash, animal bones, and grave goods, some of which were vitrified, placed within a circular tomb defined by two rows of stones.²⁵ The wall of the tomb was preserved to a maximum height of 80 cm. Cremation burials continued at the site in the Late Bronze Age. Verkhnaia Rutkha Tomb 16 was a square, stone-lined tomb and has been referred to as the 'House of the Dead'; similar tombs were discovered at Egikal and possibly at Brili.²⁶ Other cremation remains were either buried in a large pit, such as those found at Nuli and Kvasatali, or stacked up as a pile of burnt bones, as was discovered at Chmi.²⁷

6. **Stone cist tombs:** a common type in the Koban culture and fairly widespread, except in the eastern area. They come in three sub-types – elongated, square, and trapezoidal – and are generally situated in the mountains and foothills, with the square type particularly common in the western zone of the culture province. Amongst the key sites are Koban and the cemeteries in the Kislovodsk environs. Single inhumation was practised, but infrequently a double burial (male and female) was recorded. The deceased were invariably buried on either their left or right sides, in a flexed position. Sex is not associated with burial position, except at Belorechenski, where they conformed to the rule of males on their right sides, and females on their left.
7. **Barrows:** a widespread type of burial in the central region of the northern Caucasus, where they are found in clusters at various burial grounds, including Muzhichi and Karabashevo. They can mostly be assigned to the sixth and fifth centuries BC, at which time Scythian influence can be detected – mainly in the form of weaponry. Inhumation is the usual rite associated with barrows, though burnt debris at Karabashevo might suggest cremation. At Kamenomost, Zaiukovo, and Karabashevo, the barrow of earth covers a stone cist chamber, pointing to the merger of indigenous and foreign elements.
8. **Burials within a cromlech** (a large ring of stones): These are rare and found only at Muzhichi in Ingushetia.

²⁴ Kozenkova 2004.

²⁵ Kriviskii et al. 1976.

²⁶ On Brili, see Gobedzhishvili 1952.

²⁷ Reinhold 2007: 178.

THE KOBAN BURIAL GROUND

Our information on Koban, a 2-ha necropolis, is not detailed. Early investigators noted both collective burials and a predilection for right-side burials.²⁸ Two burials – Tombs 9 and 12 – are particularly significant, the former having been sent to Lyon museum complete with human remains and all the grave provisions.²⁹ They will suffice to illustrate Koban inhumations. Tomb 9 was a rectangular stone cist tomb. Its occupant was a woman, aged between 30 and 60 years, who lived between 967 and 813 cal BC [Lyon-4369]. She was placed on her right side in a flexed position, and positioned around her were votive offerings – parts of pig and sheep, probably sacrificed at the time of her burial. The tomb contained many finely crafted bronze objects, many found around or under the skull. These included sixty-seven appliquéés, which may have been stitched to a pillow; under the woman's head were two large, 'racket-shaped' pins, crossed. She was laid to rest with some of her jewellery: each arm had a spiral band with volute ends, and her left wrist was adorned with a pair of bracelets. Around her head were many small spirals, tubes, and a pair of earrings. She also wore a belt of which only an ornately patterned semi-circular belt buckle survives. Other items scattered in the grave included ram's-head and small dagger pendants, pins with a simple spiral, three spherical glass beads and many carnelian beads, and two ceramic containers. Amongst the items, much has been made of a bow fibula decorated with a herringbone pattern that will be discussed below.

Quite different in character is Koban Tomb 12, which is in every sense a warrior tomb. It has been assigned to the eighth–seventh centuries BC on the basis of a bimetallic (bronze-coated iron) dagger and a snaffle bit.³⁰ The tomb was an earthen pit sealed with large stones. In it, a male was placed in a foetal position, and at his feet Chantre reported the skeletal remains of a child (Figure 9.2). On and around the skeleton were grave goods and personal ornaments, and their distribution resembled that of Tomb 9. At the back of the head, positioned parallel to each other, were two pins with curled heads. Nearby was a pair of earrings. A scatter of appliqué tubes and carnelian beads around the individual's chest suggest that either his clothes or a cloth that covered him were decorated. He wore a rectangular belt buckle and across his hip was an iron dagger, still bearing traces of bronze on its surface. A cluster of artefacts was placed in front of the deceased: an axe, a snaffle bit, a chain, and pendants. A ceramic bowl was placed in the crook of his legs. In some burials, bronze containers were filled with barley.³¹

²⁸ Chantre 1886; Uvarova 1900: 9–11; Reinhold 2007: 179.

²⁹ For a detailed analysis, see Bedianashvili and Bodet 2010. See also Kozenkova 1996: 96; Reinhold 2007: pl. 205.

³⁰ Bedianashvili and Bodet 2010: 284–5. For the original report, see Chantre 1886: 27.

³¹ Tekhov 2002: 181.



Figure 9.2. Koban Tomb 12 (redrawn by C. Sagona after Bedianashvili and Bodet 2010).

COSTUMES AND RANK

The sheer quantity of bronze objects from the graves of the Koban culture has enabled some important patterns of female and male costume usage to be determined. These can, in turn, be used to draw inferences about gender roles and the construction of social identity both within and between sites.³² Central Chechnia, in particular the Serzhen-Yurt and Mairtup cemeteries, provide some meaningful insights into pre-Scythian female costumes. More than 100 burials were excavated at Serzhen-Yurt, and collectively they have yielded a rich assemblage of bronze items. In her analysis, Reinhold noted three levels of burial costumes, based primarily on a presence/absence combination of three bronze artefact types: artificial plaits worn around the head, temple-rings, and bracelets. The most visible and symbolic dress had all three pieces, while the next had both temple-rings and bracelets; the third level of visibility had either temple-rings or bracelets. This code of dress has been interpreted as the visible expression of strict social norms, extending more than some 300 years. Essentially, the way a woman was dressed for burial displayed her standing in the community, a rank defined by age, wealth or even perhaps marital status. The nearby site of Mairtup 2 attested similar combinations of costume gear. Further afield, at Tli and Koban, artificial plaits were not used. Instead, in that central mountainous region, most women were buried with leg-rings and bracelets, often in combination with other items. The Kislovodsk region had its own costume, defined by neck rings, pins, and bracelets.

By the later Iron Age, reflected well by the cemetery at Lugovoe, Scythian influence had a noticeable effect on female costume. While the accessories a woman wore were now more varied, some tombs stand out for their richness – large ornamented belt buckles, temple-rings, and, to judge by the numerous beads, elaborately embroidered garments were amongst the finds. Similar patterns of change can be observed at other sites in Chechnia and in the region of Kislovodsk, but not at Koban and Tli, where change is typological rather than a matter of scale. These changes in female costume provide insights into the transformation of community values. During the Late Bronze and Early Iron Age, women were buried in one of three types of costume – differentiated according to status – that displayed little variation within each category. This ‘corporate’ image can be detected across regions in the northern Caucasus, each with its own version of funerary attire. Overall, we are dealing with a conservative period during which there were strict codes of dress. In the Late Iron Age, on the other hand, no regionally specific costume compositions can be detected from the Caspian to the Black seas, but sharp peaks in individual display and wealth are discernible.

³² Reinhold 2003, 2005a, 2005b.

WARRIOR SYMBOLS

Male burials were furnished with weapons or tools. The predominance of daggers, lances, and axes suggests we are dealing with warrior tombs. According to Reinhold, burials at Serzhen-Yurt can be broadly divided equally between those that contain arms and those that do not. Within the former group, the scale and combination of weaponry, in which the dagger is the most common element, reflects rank in a warrior society; a greater number of weapons indicates superior power, rather than prestige or status. Variations amongst the warrior graves and individual warriors are also characterised by the types of armaments. In the foothills of the central and north-western region, for instance, the nature and amount of horse gear defines whether the individual belonged to the mounted or unmounted class of warriors, which presumably were ranked in terms of prestige. In the mountainous zone, on the other hand, the quantity and quality of axes and daggers defined hierarchy.

Interestingly, Scythian influence brought a common denominator to funerary practice for the warrior class. The quantity of daggers and axes placed in a tomb decreases. Instead, most warriors are now buried with a lance and a knife. In sum, then, it seems that around the middle of the first millennium BC there was a gradual change in the costume of men and women and with it presumably a change in the way social identities were constructed and their meanings conveyed.

TLI AND THE CENTRAL REGION

Tli is the most extensively excavated cemetery. Located at an altitude around 1,800 m asl, it covers an area of ca. 1,000 m² on the slope of a hill overlooking the Great Liachvi River, in the now volatile region of South Ossetia. Although Tli was visited several times and explored in a cursory manner in the last two decades of the nineteenth century, it was subsequently forgotten and thus mercifully escaped the ransacking that was the fate of many northern Caucasus cemeteries. Regular excavations led by Bagrat Tekhov began in 1955 and continued until the mid-1980s, a project that uncovered 481 graves.³³ With some tombs belonging to the Middle Bronze Age and the bulk attributed to the Late Bronze and Iron Ages, Tli was continuously used for more than a millennium, making it a site of extraordinary importance.³⁴ In the earliest (Middle Bronze Age and Koban Phase A) tombs there are a number of multiple burials, with up to six individuals, but the majority of Late Bronze Age and Iron Age

³³ Tekhov 1957, 1980, 1981, 1985, 2002.

³⁴ Motzenbäcker (1996) assigns some of the Tli tombs to the Middle Bronze 2 period (ca. 1500–1400 BC), which Tekhov ascribes to ca. 1600–1500 BC.

burials were single.³⁵ Although not common, tombs with more than one skeleton, such as Tomb 398, often contained the skeletal remains of a child or two. Graves at Tli were closely packed, and at times overlap, but the lack of a full spatial plan of the necropolis makes it difficult to comprehend the relational situation of the tombs.

Tekhov maintains that at Tli graves were superimposed in three layers, suggesting a chronological evolution.³⁶ Tomb types were mainly earthen pit graves roofed with stone slabs, or stone cist chambers (Figure 9.3(2, 4)). The deceased were placed in foetal position, head pointing north, surrounded by grave furnishings and almost always on their right sides. About 4 per cent of individuals were laid to rest on their left sides in Tekhov's stage D (Koban Phase B), but this increased markedly to 26 per cent in Koban Phase E.³⁷ Many of the tombs were disturbed in antiquity, not through looting, but as part of the mortuary practice of re-use. Only a few graves remained totally intact.³⁸ A remarkable phenomenon in Tli is the treatment of disturbed graves. It appears that to create space for new burials, the bones of earlier skeletons were collected and carefully positioned in one corner of the tomb. An effort was made to articulate the piles of bones, which were probably wrapped. The grave goods were rich, mostly weapons and jewellery, with a very few ceramic vessels only in the earliest phase.³⁹

Several chronological schemes have been proposed for the Tli cemetery. Tekhov divides the sequence into six phases stretching from 1600 BC to around 600/500 BC. Tekhov's scheme is anchored on south Caucasian parallels, which themselves are not always secure. Using Tomb 85 as an anchor, Georg Kossack proposed a scheme that placed the beginning of Tli around 1400 BC.⁴⁰ He also maintained that the earliest Scythian objects appeared earlier in the northern Caucasus than had hitherto been thought. Alexander Pruss first attempted a seriation analysis of artefact types. He questions the notion of continuity at Tli, though he appears to have ignored the nature of the burials and the purpose of the pile of bones.

³⁵ In describing the quantity of individuals buried, I follow the terminology set out by Sprague (2005). Cf. Reinhold (2007), who describes tombs with six individuals as collective.

³⁶ Unfortunately, no photographs or stratigraphic sections have been published. Tekhov 1977: 63.

³⁷ Reinhold 2007: 178.

³⁸ Tekhov 1980: pl. 121; 2002: figs 1–6, 9, 21–6, 38–47, 58–65, 77–90.

³⁹ Pruss (1993) suggests that the tombs opened in the nineteenth century probably belonged to the earliest phase.

⁴⁰ Kossack's (1983) scheme is as follows: Tli A (ca. 1400–1100 BC), Tli B (ca. 1100–1000/950 BC), Tli C, comprising two phases (1000/950–800/750 BC), Tli D, comprising two phases (800/750–600/650 BC). See also Reinhold's (2007) comprehensive scheme.

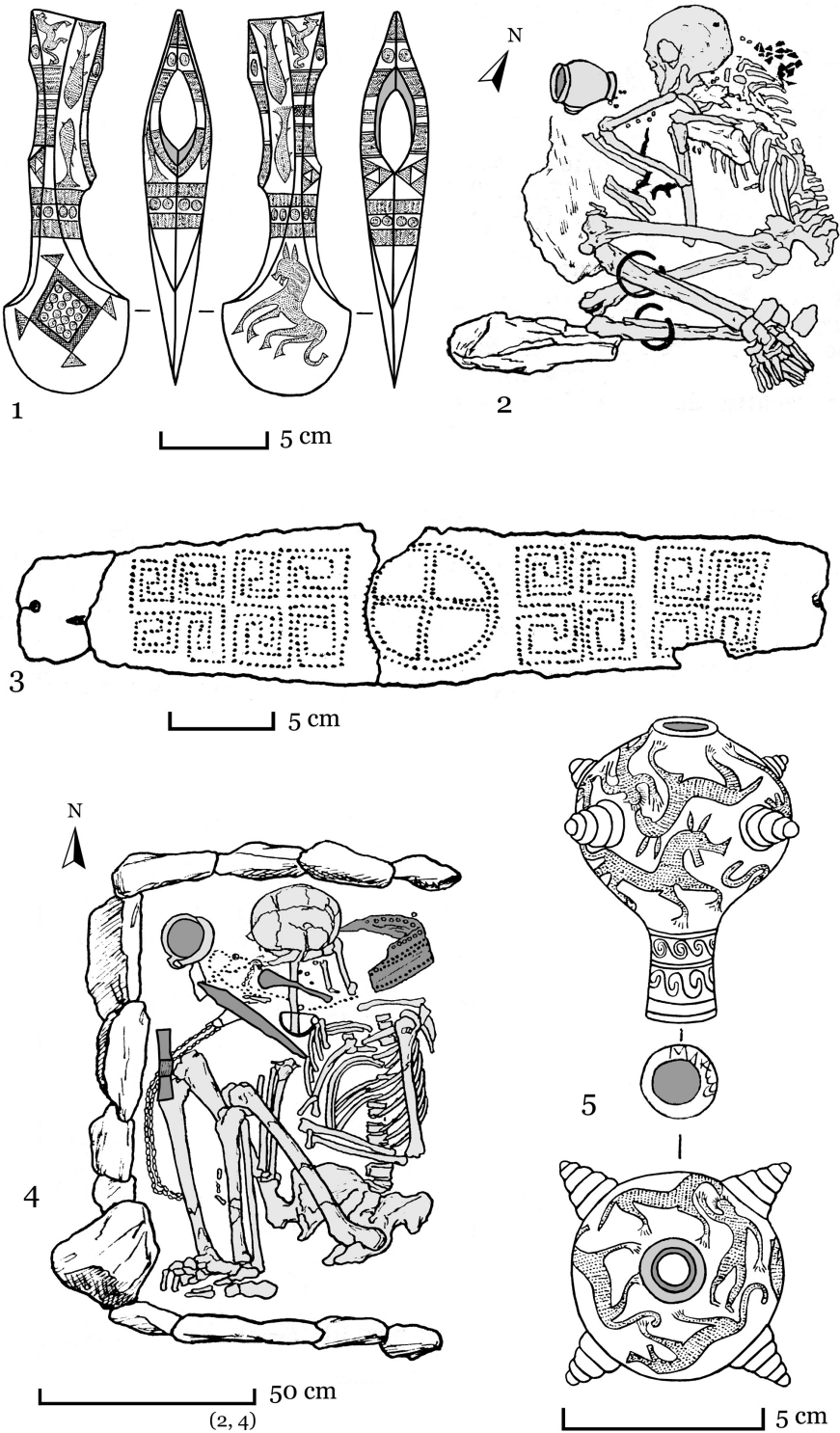


Figure 9.3. Tli: (1) Tomb 52, bronze axe; (2) Tomb 244; (3) diadem; (4) Tomb 248; (5) decorated mace head, Tomb 227 (after Tekhov 1977).

Styrfaz

Not far from Tli is the cemetery of Styrfaz, also excavated by Tekhov. A circle of river pebbles, 4 to 6 m in diameter, bound tombs at Styrfaz. Eleven stone circles were found, each with a number of tombs at its centre. These tombs were of two types: either rectangular pits with stone-lined walls and a floor of earth, or rectangular stone cist tombs. The circles also contained quantities of charcoal, animal bones, pottery sherds, and red ochre, tangible evidence of the funerary rite. Burials at Styrfaz were in the foetal position, either on the left or right side. Three stone circles (nos. 5, 10, and 11) had more than one tomb. Tomb 1 (stone circle 5) was a collective tomb with the remains of at least ten individuals piled up in its north-west corner. Next to it, Tomb 2 contained only a single individual. Two concentric circles of stones defined Circle 10, with which eleven tombs were associated. Each contained an individual burial: three (Tombs 1–3) were found on the western outer edge of the circle and eight (Tombs 4–11) within the circle. The twenty-six tombs from Styrfaz are generally placed within the early phase at Tli. Other significant cemeteries include Kvasatali, Nuli, Lisa Zemo-Ojola, and Dvani, each of which has an assemblage that overlaps with part of the extensive Tli horizon.

WHY METALS MATTERED

In the past few chapters we have witnessed the gradual rise and spread of bronze products in the Caucasus, from the formative period of the earliest copper alloys, mainly arsenical, through the predominant use of tin bronzes. As we approach the bronze-iron transition, it is worthwhile to assess, however briefly, the changing role of bronze usage in the Caucasus.

The so-called Bronze Age Hypothesis, which attempts to explain the significance of bronze in Europe, is a useful starting model. It has been summarised by Christopher Pare in a series of key points:

- Bronze was fundamental in both economic production and social reproduction.
- It was therefore essential for societies to obtain bronze (or copper and tin).
- As the vast majority of societies did not have local supplies of copper and tin, they were obliged to participate in exchange networks that linked them, directly or indirectly, with distant sources of metal.
- Consequently, and compared with earlier periods, the Bronze Age was characterised by a massive increase in exchange.
- The exchange system lent itself to control by emerging elites, which tend to be more noticeable in the Bronze Age than in previous periods.⁴¹

⁴¹ Pare 2000: 24.

In comparing the European situation to that in the Near East, there were notable differences in the dissemination of bronze. In the Near East, the early stages of tin bronze metallurgy involved long-distance exchange networks, controlled by powerful urban centres in Mesopotamia. This usually resulted in directional trade from site to site, based on demand and supply. The scene in Europe was quite different. With no cities to organise caravan trade, bronze products were circulated amongst the villages on an altogether different model, which was more diffuse. Another reason given for these distinct models is the availability of tin. Although most regions in Europe had to import tin, the tin deposits scattered across the continent made it a more accessible commodity than was the case in the Near East, where tin was very rare, problematic to obtain, and subject to monopolies.

In the Caucasus, we have traced the gradual appearance of arsenical bronzes in the late fourth millennium through the advent of tin bronzes in the third millennium. By the Middle Bronze Age (ca. 2600 BC), bronze was widely used for a diverse range of products, from weapons and implements to jewellery and other decorative items. This variety of applications indicates that bronze was appreciated for more than its technical benefits of hardness and malleability. It was valued for its tactile and visual qualities, too – its patina and colour, and its capacity to be decorated with arresting designs and transformed into objects of desire.

Bronze reached a new level of importance in the Caucasus by the middle second millennium BC. The sheer quantity of bronze alone, such as we have in the Koban culture, suggests that the metal had a standard value – what Sherratt has termed ‘proto-currency’ in the European context.⁴² Neither too common nor too rare, bronze was used to craft a variety of objects that were both appealing and useful across diverse cultures and value systems. Likewise, the physical characteristics of bronze – its ability to be melted and re-cast – meant that it could be easily converted into items specifically suited to local tastes. This, I think, is what happened in the Late Bronze Age Caucasus, which is defined by roughly similar metalwork assemblages across the whole area. Functional items such as axes were adopted more or less unchanged across traditions, while more personal objects were tweaked or converted to reflect regional choice. This feature of ‘liquidity’ took bronze items out of the prestige category, such as the items owned by a privileged few in the Middle Bronze Age, and endowed the metal with value that could be exchanged. Over the centuries, then, the importance of bronze was transformed through a process of commoditisation.

KOBAN METALWORK

Studies on Koban metalwork have favoured typologies based around shape, in the first instance, and then material. Valentina Kozenkova, and before her,

⁴² Sherratt 1993: 17.

Bagrat Tekhov and Evgenii Krupnov produced fundamentally important regional sequences.⁴³ More recently, Reinhold has taken a broader view, bringing together in a thorough study the bulk of the material from across the northern Caucasus. Following in part her predecessors, she has grouped the material into five main functional categories, which I will adapt and compress into three groups: weapons, tools, and horse trappings; costume accessories and associated jewellery; vessels.⁴⁴ Scythian-influenced late Koban material falls outside the parameters of this book and will not be dealt with.

Weapons, Tools, and Horse Trappings

This category comprises about half of the total Koban grave depositions, highlighting the military character of its burials. Items are manufactured from bronze and iron, though some pieces were worked in stone and antler. Weapons consist of several different types of ranged and hand-held types: blades (daggers, knives and swords), axes, blunt weapons (hammers and clubs), ranged weapons (spearheads and arrowheads), and armour (helmets, shields and body armour).⁴⁵ Most of the organic components of composite weapons such as bows, quivers, and wooden handles and shafts have not survived.

Bronze Daggers: These offensive weapons, used at close quarters, constitute one of the largest categories of artefacts. They are generally grouped according to the design of the handle and the shape and thickness of the blade. More than half of the total number of daggers has a tang, a spike to which the handle was attached. These represent the earliest type of daggers. Their blade can be triangular with a sloping shoulder and no rivets, broad with concave sides, or straight-sided (the most lethal of the daggers) with rivet holes at the juncture of shoulder and tang.⁴⁶ The latter two types were also forged in iron. Flange-hilted daggers constitute another group and can vary considerably in length. They have their hilt and blade cast in one piece, and the edges of the hilt and ricasso are raised to hold in place the inlay of bone, wood, or other perishable material. These daggers appeared throughout the Near East in the early second millennium, and gradually spread to other areas, including the Caucasus, where they were modified to local taste.⁴⁷

⁴³ Krupnov 1960; Tekhov 1977; Kozenkova 1982, 1995, 1998.

⁴⁴ Reinhold 2007: 29.

⁴⁵ These categories are slightly different to those proposed by Reinhold (2007: 29), who groups weapons according to functions – stabbing, slashing, throwing, ranged and defensive.

⁴⁶ Reinhold 2007: fig. 13 pl. 1, lists 1 and 2 (category DoA1A–B) for triangular; fig. 13 pl. 2, lists 5–10 (category DoA3A–F) for straight-sided; fig. 14, pls. 7–13, lists 14–25 (categories DoB1–6, C1–C2, D1) for the broad blade.

⁴⁷ Reinhold 2007: fig. 15, pls. 14–18, lists 26–35 (categories Kgd A1–5, B1–3, C1–3).

There are also daggers with a solid, waisted handle, which again have the hilt and blade cast in one piece. Typologically, they share attributes with examples as far apart as Iran and central Europe, but many are uniquely Caucasian in their ostentatious design and decoration.⁴⁸ Bimetallic daggers are quite distinctive and constitute the last type. They have a bronze handle and iron blade, and are often referred to as the Kabardino-Pyatigorsk type, stretching as they do across the northern foothills between Koban and east Chechnia.⁴⁹ With origins in north-western Iran in the Iron Age I, they soon appealed to communities in the northern Caucasus, where local artisans manufactured a distinctive series. At Serzhen-Yurt (Burials 26 and 44), for instance, the smiths reached a high level of metallurgical sophistication, having produced high-carbon steel blades.

Bronze Axes: Arguably the icon of the Koban metal assemblage, the forms of bronze axes are distinctive – from a fluted shaft hole and rectangular butt a long and sinuous neck extends to a wide and rounded blade. One third of the axes are highly decorated, with incised designs depicting dynamic animals and geometric patterns, often executed in a metopic fashion. These showy pieces are particularly common at Tli, where they formed part of a warrior's accoutrements (Figure 9.3(1)). The rest were plain and utilitarian.⁵⁰ These axes are particularly common in the central Caucasus (northern and southern Ossetia) and western Georgia. Whether they ought to be classified as 'Koban', 'Colchian', or 'Colchian-Koban' axes has been a matter of debate.⁵¹ Iron axes were also produced in the Caucasus and they are generally placed in the seventh century BC. Stone axes and hammers, mace heads and sceptres belong to the category of blunted weapons and ceremonial items and they form a varied group.

Spearheads: One of two main-range weapons (the other being the arrowhead), spearheads have been well studied.⁵² They are ubiquitous and were manufactured throughout the Late Bronze and Iron Age periods. Most have a base that is cast and hollow and inserted over the wooden shaft. The rest have a thick sheet that wrapped around the top of the wooden shaft. Both types often have a pair of rivet holes. Forms range from 'leaf-shaped', the most common, to those with a narrow central ridge that runs all the way to the tip. Iron versions are amongst the key elements that define the Early Iron Age. Amongst the types, those with a narrow stem and an oval blade with no ridge are common.⁵³

⁴⁸ Reinhold 2007: fig. 16, pls. 19–22, lists 36–49 (categories Vgd A1–3, B, C1–5, D1–3).

⁴⁹ Reinhold 2007: fig. 17, pls. 23–30, lists 50–58 (categories Bmd A, B, C1–3, D1–4).

⁵⁰ Reinhold 2007: 50, pls. 45: 7–13, 46–8.

⁵¹ Reinhold 2007: figs 20–21, pls. 38–41, lists 77–93 (categories Ax A1–6, B1–4). See also Tekhov 1980, 1981, 1985; and Kuftin 1950, who prefers to group them as 'Colchian-Koban' axes. For an overview of the typological schemes, see Pantskhava et al. 2003.

⁵² Tekhov 1977 (Tli assemblage); Kozenkova 1982 (the northern Caucasus); Picchelauro 1997 (central and eastern Georgia).

⁵³ Chernykh 1976; Reinhold 2007: figs 25–6, pls. 59–62, lists 150–66 (categories LzE1–3, F1–4, G1–6, H, J1–2).

Most have a blade the same length as the stem. Flint and obsidian hollow-based arrowheads continue in the Late Bronze Age, but by the time of the late Iron Age they give way to the long-stemmed two- and three-leafed metal arrowheads found throughout the Eurasian steppes and presumably deriving from the Pontic steppes.⁵⁴

Horse Harnesses: These varied artefacts are amongst the most studied items from the Caucasus, Europe, and the Near East. The jointed snaffle consisting of two rounded bars linked at the centre is the most common item.⁵⁵ Its ends form a single or double loop, which was either circular or stirrup-shaped. Like other metal categories, there are multiple variations based on ornamentation and bar form. Another important bridle element is the bar cheek piece (*psalia*). There are essentially two basic types, with multiple variations. One type has three equidistant rings attached to one side, whereas the other has three perforations. The most basic of the former is a straight bar, sometimes capped at either end, with three loops. In cross-section they are round or square. All types are found mostly in the north-western Caucasus and the Kislovodsk area, in the lower reaches of the Kuban valley. Like the snaffle bits, the main focus for them is the piedmont region.⁵⁶ Horses were also ridden with bone and antler cheek pieces, which were either straight or curved.⁵⁷ One distinctive type, originally from the north Pontic steppes and termed *Belozërka*, has a swollen bar and perforated mushroom-capped ends.

Jewellery and Costume Accessories

Jewellery played an important role in social identity amongst Koban communities and the tombs are replete with items that adorned several parts of the body. Headgear included ornamented diadems (broad metal strips), so far found only at Tli and Styrfaz.⁵⁸ For added appeal, bronze rings made of thin wire, some quite large, were hung from the diadems (Figure 9.3(3)). Lunate hair rings with overlapping ends can have flattened ends decorated with grooves. These are ubiquitous throughout the Near East, but in the Caucasus were popular at the headwaters of the Kuban River.

Rings and Spirals: Rings with multiple spirals hung from a diadem or head band around the temple, and large spiral armbands, are distinctly north Caucasian (Figure 9.4(3–4)). Some rings are 6 cm in diameter and can have two or three spirals. They were manufactured from solid wire or folded wire,

⁵⁴ Reinhold 2007: fig. 27, lists 167–87 (categories PfA1–4, B1–3, C1–3, D1–3, E1–4).

⁵⁵ Val'chak 1997a, 1997b; Dietz 1998.

⁵⁶ Reinhold 2007: fig. 29, pls. 63–73, lists 214–40 (categories Tk A1–4, B1–4, C1–2, D1–2, E1–2, F1–2, G1–6, H).

⁵⁷ Reinhold 2007: fig. 29, lists 247–51 (categories Tk Kn A, B1–2, C–D).

⁵⁸ See, for example, Tekhov 1971 (Styrfaz), 1977 and 1980 (Tli).

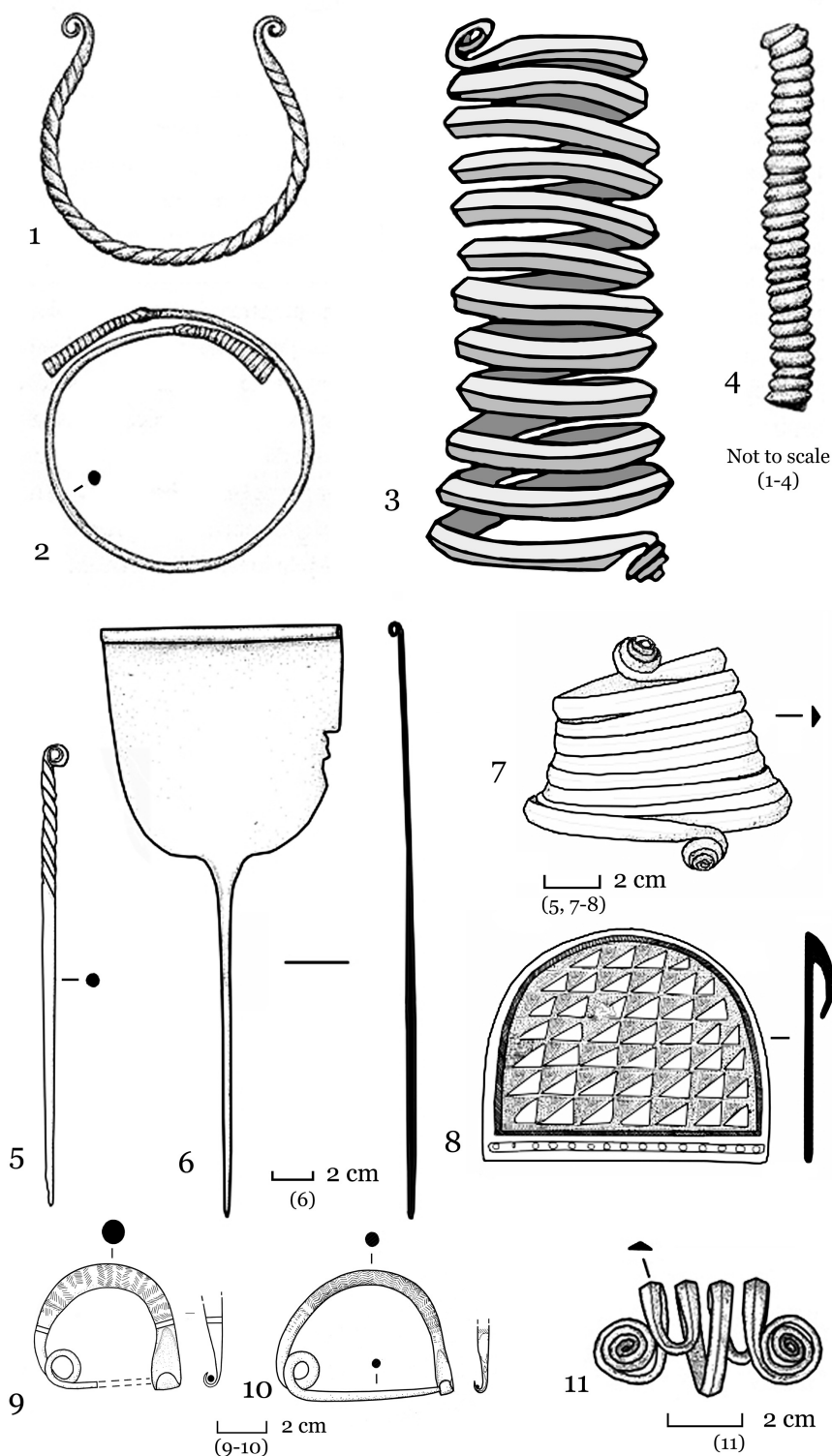


Figure 9.4. Koban jewellery (I) torque; (2) bangle; (3, 7) arm band; (4) temple spiral; (5-6) pins; (8) buckle; (9-10) fibulae; (11) pendant or finger ring (after Reinhold 2007; Bedianashvili and Bodet 2010; Bedianashvili 2016).

with flattened or cut-off ends.⁵⁹ Spirals made from coiled wire were produced mainly in eastern Chechnia and usually measure about 6 cm in length, but most distinctive are the long spirals (up to 35 cm in length) with up to twenty turns that dangled from the temple. One of the best concentrations was found at Serzhen-Yurt. For added decorativeness, some examples terminate in a tight volute.

Rings were also worn around the neck. The most popular design was the torque, found throughout the western Caucasus, from Chechnia to the Black Sea coast, and especially at Tli.⁶⁰ Torques terminate at both ends in an eyelet formed by a tightly wound spiral. They can be plain or decorated, as well as thick and massive (Figure 9.4(1)). Clothing pins are the most common jewellery items, as they are in the southern Caucasus, with four basic categories and more than sixty types.⁶¹ The most convincing approach is to classify them according to the broad shape of the head: plain profile or small-headed; ornate; 'racket-headed'; open-work. Within these basic categories there are multiple variations (Figure 9.4(5–6)).

Fibula: Many studies on fibulae revolve around place of manufacture – imports versus local – which has significant implications for chronology. According to Friedhelm Pedde, the fibula originated in Europe and was transmitted through the Mycenaean world via Cyprus, eventually reaching the Near East.⁶² This model is convincing and the examples from the Caucasus are to be seen as part of this transfer. Fibulae are not as plentiful in the Caucasus as pins, but their typology, like their chronology, has been much debated. Both low and high chronologies have been proposed. Amongst the low are the schemes of Yuri Voronov and Nino Sulava, who place the appearance of fibulae in the Caucasus around the late ninth to early eighth century BC, largely on the basis of European and Mediterranean parallels.⁶³ By contradistinction Georg Kossack and Valentina Kozenkova place their introduction much earlier: the eleventh century (Tli Phase B) and the twelfth century (Koban II) respectively.⁶⁴ Some measure of certainty is afforded by the single radiocarbon date

⁵⁹ Reinhold 2007: fig. 31, pls. 89–94, lists 303–33 (categories SrA1–3, B1–5, C1–3, D1–6, E1–2, F, G1–3; SsPA1–3, C).

⁶⁰ Reinhold 2007: fig. 32, pls. 95–100, lists 341–59 (categories HrA1–3, B1–5, C1, D1–2, E1–3).

⁶¹ There are several pin typologies for the northern Caucasus (Tekhov 1977: 36–51; Kozenkova 1982; Motzenbäcker 1996: 81–102), but I have, on the whole, followed Reinhold's (2007: 81–90, figs 33–4, pls. 101–19, lists 361–434 (categories Na A1–3, B1–8, C1–2, D1–3, E1–4, F1–7, G1–5, H1–2, I1–3, K1–2, L1–3, M1–2, N1–5, O1–8, P)).

⁶² Pedde 2000. Earlier studies on Near Eastern fibulae include Stronach 1959; see also Muscarella 1967; Kossack 1983. An early classic work is Blinkenberg 1926. On Italian fibulae and their wider European setting, there is Toms 2006 and Lo Schiavo 2006; for Greek fibulae, see Sapouna-Sakellarakis 1978.

⁶³ Voronov 1984; Sulava 2005.

⁶⁴ Kossack 1983; Kozenkova 1996.

from Tomb 9 at Koban, with its thickened bow fibula, which accords best with the higher chronology.⁶⁵

Essentially, fibulae generally have a semi-circular bow (or arc), and are best classified according to the decoration on the two 'arms' of the bow (Figure 9.4(9–10)). Other components of a fibula include the spring (the coiled end of the pin-stem), the pin-stem (a pointed wire that pierces the fabric on which the fibula is worn), and a catch (one end of the bow opposite the coil that catches the pin-stem). Most fibulae are made of bronze, with a small number shaped in iron. Reinhold proposes four categories: simple and undecorated; continuously decorated bow; keel-shaped arc with an 'apex'; and zoomorphic.⁶⁶ Of the simple bow fibulae, which can have either a circular or lozenge-shaped cross-section, Reinhold has noted that sites in the mountainous regions have yielded the largest examples. The ornate fibulae generally have their bow incised all over with an intricate herringbone pattern, giving it a knurled look. These are generally considered to be the earliest type, with close sub-Mycenaean analogies. Other ornate fibulae are decorated with bead and collar moulding, or a continuously ribbed bow, or with varied ribbed, cross-hatched and plain mouldings.

Bangles, Bracelets, and Arm-Rings: This jewellery category can be grouped together. The simplest form and most diverse group is the solid type with a round or, less commonly, triangular cross-section; size generally determines whether they are bangles or arm rings (Figure 9.4(7)). Their ends can be cut vertically, or diagonally, or be worked – hammered into a snake's head or formed into a knob. In this group, we can also include leg-rings, which could be mistaken for solid arm-rings were it not for their in situ context at Tli and Koban.

Belts and Buckles: Leather belts sewn onto bronze hooks and buckles were fashionable, but only in the central Caucasian range; there is a conspicuous absence of them at sites in the northern Caucasus.⁶⁷ Although hooks are fairly standardised, belt clasps offer more variety. One category is the long and narrow metal plate, as wide as the belt itself, and perforated along the edge of one side. Whereas some plates are unadorned, a good many are highly decorated with elaborate incised geometric patterns, or empanelled running spirals

⁶⁵ Bedianashvil and Bodet (2010: 282) point out the correspondence between the absolute date and Kossack's ninth-century (late Tli C) and Kozenkova's broad tenth–seventh centuries (Koban III) date for typologically similar fibulae. This accords with the LBA–EIA/Villanovan I phase (ca. thirteenth century–830 BC) in Lo Schiavo's (2010) exhaustive study of fibulae.

⁶⁶ Reinhold 2007: 90–93, fig. 35, pls. 120–30, lists 436–78 (categories Fi A1–4, B1–7, C1–5, D1–2, E1–3, F1–3, G1–2, H, I).

⁶⁷ Reinhold 2007: 98–103, fig. 37, pls. 144–54, lists 539–614 (categories Gh A1–2, B1–3, C1–2, D1, E1–2, F1–4, G1–4, H1–2, I, J1, K1; GbA1, B–D, E1–5).

(Figure 9.4(8)). Some also bear vibrant figurative animal designs – opposing stags, a pair of horses, or ornate metopes with other dynamic animal figures. Chantre reports at least ten bronze buckles from the Koban inlaid with iron.⁶⁸ These belt buckles are clustered at Tli and Koban, and also along the west Georgian coast, in particular at Ergeta and Ureki. Different in appearance and fewer in number are the semi-circular variety of buckles, most likely produced in Koban workshops. Bedianashvili and Bodet come to the same conclusion in their comparison of buckles from the Koban and from the southern Caucasus, where communities had their own local decorative preferences.⁶⁹

Pendants: The final category of jewellery is the pendants. These are numerous and diverse, and are scattered across the northern and western Caucasus.⁷⁰ Zoomorphic pendants (or finger rings) are by far the most common (Figure 9.4(11)). A range of animals are represented – deer stags, horses, wild sheep and goats, boars and birds are favourites, though the occasional turtle appears too. Human figures are also attested, though in stylised form. Pendants in the form of miniature swords, axes, openwork rattles, spheres with knobs, and even an astragalus, along with a plethora of geometric shapes, complete the repertoire.

METAL VESSELS

Bronze vessels are few in number and popular in the highland settlements. The range is restricted: cups, bowls, jugs, buckets, and jars. Bowls and cups often display an S-profile and can be ribbed or decorated with rows of dots. Buckets are usually pear-shaped, narrow-necked, and footed.

CERAMICS

Pottery is generally handmade and poorly fired. The slow wheel was known and especially used over the mountain ridge in South Ossetia. On the whole, vessels are dark in colour – grey to black and, rarely, brown. Pottery containers are quite uniform and display a limited range of forms: cups and mugs with up-swung handles, deep and shallow bowls, often with an S-shaped profile, jars, jugs, and a few closed shapes such as bottles.⁷¹ There are also wide-bellied pots, some rather squat with an accentuated girth, and bowls – the hemispherical types and those with an out-turned rim.⁷² Within each of these forms there

⁶⁸ Chantre 1886: 27.

⁶⁹ Bedianashvili and Bodet 2010: 279–81.

⁷⁰ Reinhold 2007: 104–10, figs 38–40, pls. 156–8, lists 621–726 (categories An A1–4, B1–6, C1–2, D1–6, E, F1–4, G, H1–2, I–N; Tan A1–6, B1–12, C1–4, D1–2, E; Sonstiger Schmuck; Zs A1–6, B1–4, C, D1–3, E, F).

⁷¹ Reinhold 2007: 115–27, figs 42–4.

⁷² Reinhold et al. 2012: figs 4–6.

is quite a range of profiles, which need not detain us here, suffice to say that the profile of vessels became more accentuated with time. At the transition between the Late Bronze and Early Iron Ages, communities preferred deeper pots, often with a tall neck and low shoulders. Surfaces can be decorated, but not lavishly. Crude ornaments – horizontal flutes, all-over jabs or finger impressions, or various incised geometric patterns – derive from Middle Bronze Age prototypes. The squatter vessels were often decorated around the upper part of the body in metopic fashion with a band comprising blocks of vertical lines edged with a flame pattern or rows of hatched triangles. Occasionally, pendant semi-circles, again edged with a flame pattern, hung from the base of this decorative band.

CONCLUSION

Like the artefacts of the Maikop culture some 2,000 years before, the early collections of dazzling Koban metalwork stimulated a deep interest in the northern Caucasus and its position in the ancient world. Situated between the Eurasian steppes and the ancient Near East, the character of the Koban culture is defined by a handful of excavated settlements and many hundreds of tombs. Koban settlement patterns are presently known through two different village types: the stone-built, linear agglutinative layout situated in the highland region that might be connected to pastoral practices, and the smaller, mostly single-period hamlets, situated in lower altitudes. These hamlets were not fortified but were strategically positioned, some no doubt near metal sources. Subsistence practices show no change from earlier periods. Villages were agricultural in nature, showing also a preponderance for animal breeding. The few house plans we have tell us little about social organisation, as the domestic arrangements do not reflect the variations in burial evidence.

Bronze metallurgy also played an important role in the economy. The sheer quantity of grave goods in the cemeteries, including those in neighbouring areas of the Caucasus, suggest that some of the objects were exchanged, or plundered in military campaigns. Graves were richly equipped with metal objects and ceramics, and reflect a strict gender code. Males were buried with a warrior assemblage – weapons, tools, and horse gear, as well as costume items – while female burials are characterised by jewellery, including pendants and figurines. The importance of costumes amongst the Koban communities is striking, suggesting that dress was an important mark of social identity in what must have been a multi-ethnic population.

While metal production unquestionably defines the Koban culture, it is the industrial scale and technological advances that distinguish it from preceding periods. This surge brought with it a high level of achievement in the art of the central Caucasus. Human representation is part of the repertoire, but it is the vivid depiction of wild animals and hunting scenes that

capture the imagination. Creativity is also evident in the greater confidence the smiths show in control of the medium, as well as the range of techniques used. Despite this industrial activity, we know little about mining or the metallurgical processes. One thing is certain, though, namely bronze had reached another level of importance, as a convertible unit of value. There would have existed throughout the Caucasus a circulation in bronze items. Whether between the Koban and Colchian systems, or the Lchashen-Tsitelgori system and its neighbours, bronze became a commodity. This idea is strengthened when we consider that scrap metal was kept and hoarded, a topic that we discuss in Chapter 10. All the while, the bronze smiths of the northern Caucasus busied themselves keeping up with local demand to produce items that reflected both the warrior nature of their society and its appetite for finer items of adornment.

CHAPTER 10

A WORLD APART: THE COLCHIAN CULTURE

The western Caucasus has for a long time been a place apart. This remote parcel of land tucked at the eastern end of the Black Sea has stirred the imagination of Europeans over the centuries. It is where myth and reality seem to blur – an enchanted place that evokes a sense of the exotic. It is where, too, the concept of a borderland is perhaps at its most acute. Of its two physical attributes – humid lowlands and lofty mountains – it is the former, in Colchis, the land of the fabled Golden Fleece, that most captured the minds of the ancient Greeks.¹ Indeed, the tale of the Argonauts' quest, preserved in its fullest account in *The Argonautica* of Apollonius of Rhodes, continues to fascinate. 'The great fame this country had in early times', wrote Strabo in the first century, 'is disclosed by the myths, which refer in an obscure way to the expedition of Jason' (Strab. 11.2.18).

And in Charles Kingsley's *The Heroes*, a nineteenth-century children's tale of the Argonauts' quest, we read:

And at day dawn they looked eastward, and midway between the sea and the sky they saw white snow peaks hanging, glittering sharp and bright above the clouds. And they knew they were come to Caucasus, at the end of all the earth:

Caucasus the highest of all mountains, the father of the rivers of the East. On his peak lies chained the Titan, while a vulture tears out his heart; and at his feet are piled dark forests round the magic Colchian land. (Kingsley 1980 [1856]: 106–107)

The arrival of the Greeks in Colchis and the complex topic of Greek colonisation of the region are beyond the scope of this book, though we should

¹ Braund 1994; Lordkipanidze 2001a.

note the scarcity of written sources for the region in general.² We have brief references in the poetry of Hesiod and Eumelos, both of whom had a rough grasp of Colchian geography and the main mythical characters, like Aeetes and Medea, but on the whole our evidence is slim.³ Before the Greeks, the kings of Urartu, the Iron Age Kingdom centred on Lake Van, made fleeting references to the far away land of Qulha (or Kolkha), which is generally accepted to be Colchis.⁴

But the discreteness of the western Caucasus was recognised early on – a distinctiveness that extends back well before the arrival of the Greeks, to the last few centuries of the fourth millennium BC.⁵ Indeed, the inferences drawn from a range of excavations suggest that this territory spawned a number of related cultures, one evolving into the next, which collectively formed a cohesive geographical and social zone termed Proto-Colchian (ca. 2700–1600 BC) and Ancient (or Early) Colchian (ca. 1600–700 BC). Various studies subdivide these two periods further on the basis of chronometric dates and ceramic typology.⁶ They are to be distinguished from the final Colchian period, during which Greek colonies were established in western Georgia in the sixth century BC. The Proto-Colchian culture corresponds to the Early and Middle Bronze Ages of the Black Sea region and part of the hinterland of Colchis. Its main characteristics are mound and hilltop settlements with wattle-and-daub buildings, black polished and coarse pottery, and evidence of a strong metallurgical tradition. These features continue to a certain extent into the Late Bronze and Early Iron Ages, or the Ancient Colchian period.

At its peak, in the early Iron Age, products of this culture can be found beyond Colchis. As we have seen, the northern Caucasus (the central and western regions of Koban culture) and western Georgia shared many items of metalwork, attesting to an intensive system of contact. Colchian communities also had dealings with the regions of Shida Kartli and Meskheta, though on a less intensive level. Colchian influence appears also to have spread southward along the coastal plain as far as Ordu, where a hoard of typical Colchian metalwork was discovered.⁷ Judging by the number of Colchian-Koban-type axes held in museums in north-eastern Anatolia, mostly without provenance, the

² On cultural interplay between the Greeks and the Colchians, see Lordkipanidze 1991: 125–32; 2001a. For a counter view, see Tsatskheladze 2010/2011 and references therein. On early contacts with the Aegean, see Abramishvili 2001, 2010.

³ Braund 1994: 8–39; 73–118. On the myth of the Golden Fleece, see Mackie 2001.

⁴ See, for example, Diakonoff and Kashkai 1981: 68–9. Köroğlu (2001) thinks differently and equates Qulha with Göle in the Kars region. I would like to thank Atilla Batmaz for these references.

⁵ Przeworski 1935: 390–414, figs 46–7; Koridze 1965: 19, fig. 10.

⁶ Kuftin (1950: 138–9) and Gogadze (1982, 1984) proposed early definitions of the terms Proto-Colchian and Ancient Colchian. See also Baramidze 1999. For a review of chronological schemes, see Apakidze 2009.

⁷ Koridze 1965: 19–21, no. 23, fig. 10 (Ordu), 20 no. 27; 24 fig. 13 (Artvin).

sphere of interaction probably included this mountainous region too.⁸ Because that area of Turkey, in particular its coastal fringe, is one of the most neglected in Anatolian archaeology, we have little understanding of how these items were dispersed.

All this shows that, although the Colchian cultural homeland was hemmed in geographically to the north and south by mountains, its borders were porous. To what degree the people of Colchis looked seaward – they did after all occupy the coastal fringe and immediate hinterland – is a tantalising question and something that only future studies and maritime archaeology will be able to answer. Joni Apakidze has suggested Late Bronze and Early Iron Age Colchian communities were in contact with their counterparts in the Aegean and on the western Anatolian seaboard, and even further afield, in northern Italy. Enticing though it is, this idea requires more than broad stylistic similarities in ceramics to be persuasive.⁹

Briefly, the characteristic features of Ancient Colchian culture are sophisticated and copious metalwork, which can be vividly ornamented, a highly developed bronze and iron industry, wooden architecture, often with wattle-and-daub walls, distinctive agricultural tools, and decorated pottery. Iron production was particularly advanced, with five large centres documented in south-western Colchis and smaller workshops in central Colchis.

SETTLEMENTS, DITCHES, AND CANALS

With such a dazzling array of metalwork to grab attention, another striking aspect of western Georgia, the nature of its settlement patterns – a unique combination of mound and raised (or hilltop) settlements, unfortified settlements along river banks and the seashore (so-called dune sites), workshops, ditches and canals – has received proportionally little notice, especially in relation to transportation, communication, and defence.¹⁰ A canal system combined with riverine transport played an important role in western Georgia's development at a time when there were no roads, and the terrain was partly swampy or marshy. Pack animals and human portage were presumably the only means of 'mass' transit of raw materials, finished products and probably agricultural produce.

Given the demand for metals and the procurement of ores from the nearby mountains, it should come as no surprise that communities in this varied landscape would have used a combination of transport modes, developing a rudimentary and regional canal network in the process. This is a topic that lends itself to future research. Aerial photographs and remote sensing combined with

⁸ Işıklı and Baştürk 2010.

⁹ Apakidze 2009.

¹⁰ Apakidze 2005.

exploratory excavations should provide an understanding of the development of this fascinating network – when it emerged and whether it expanded at the same time as the increase in metallurgy. At present we can only record it.

More than 100 Late Bronze and Early Iron Age settlements have been documented in western Georgia (Figure 8.1). They are found along the coastal fringe where they are situated on sand dunes, in marshy lowland areas, on natural rises, and also on steep bluffs across the foothills, the area least studied in this region.¹¹ In the Late Bronze Age, mound settlements and settlements located on natural elevated positions were the most common, expanding in the Iron Age to include manufacturing sites, and so-called dune settlements.¹² Away from the immediate coastal fringe, the waterlogged conditions and high humidity necessitated that certain settlements were elevated. Before houses were erected, the community began by digging a ditch that would roughly encircle the settlement.

Hippocrates provides us with a vivid picture of life in the marshes of Colchis:

Now let me turn to the dwellers on the Phasis. Their land is marshy, hot, wet, and wooded; copious violent rains fall there during every season. The inhabitants live in the marshes, and their dwellings are of wood and reeds, built in the water. They make little use of walking in the city and the harbour, but sail up and down in dug-outs made from a single log, for canals are numerous. (Hp. *Aer.* 15)

Mounds surrounded by a ditch include Namcheduri, Naokhvamu, and Nosiri, while Anaklia dikha-gudzuba is rare in possessing two ditches. The earth from the ditch, usually 20–25 m wide, was then used to create a platform that would roughly correspond to the size of the settlement, though occasionally the site outgrew the platform, as happened with the earliest village at Nosiri. Packed firmly and smoothed, platforms functioned both as a raised surface over swampy ground and a damp course, preventing the rise of moisture and water into houses. In waterlogged areas, platforms were wooden constructions. Poles laid horizontally or driven vertically in the marshy soil supported a floor of wooden planks, laid end-to-end.

At Pichori and Namamu, ditches were connected to canals. In the case of Namamu, a settlement of five mounds situated on the banks of the Pichori River, a wide ditch hugged the main central mound and a canal encircled the entire site. The area within the outer canal measured approximately 20 ha and functioned as farming land for the cluster of four mounds.¹³ Sites elsewhere have shown clear evidence of intensive industry, primarily metallurgy and the working of semi-precious stones.¹⁴ So, then, this well-circumscribed

¹¹ Apakidze 2005: figs 1–2.

¹² Apakidze 2005: 180.

¹³ Grigolia 1972.

¹⁴ Gogadze 1982.

area, delineated by a canal, functioned both as agricultural land and workshops. Future remote sensing investigations will no doubt delineate the extent of the canal system, but it is possible that it crisscrossed the Colchian lowlands, connecting settlements to each other, and to rivers and the sea.

This network of corridors served the dual purpose of communication thoroughfares, no doubt stimulating economic activity, and defensive measures. It must have required a significant labour force to dig, straighten, dredge, and generally maintain the ditches and canals, in a region with heavy rainfall and significant erosion and siltation. All of this speaks for an organised society. Ditches also acted as defensive moats, and there is reasonable evidence to suggest that a wooden palisade was erected between the moat and the settlement.¹⁵ Xenophon probably referred to this arrangement when, in the later centuries of the first millennium BC, he wrote:

When [the Greeks] found themselves unable with all their fighting to capture the place (for there was a wide trench around it, backed by a rampart, and upon the rampart palisades had been set and wooden towers constructed at frequent intervals), their next move was to try to withdraw (Xen. *Anab.* 5.2).

Mound sites can be single-period settlements or have multiple habitation levels, usually Bronze and Iron Age. Sometimes they are topped with remains from the classical period, such as at Namcheduri. These mound sites vary in height and size. Patriketi is the highest, rising 9 m above the ground, whereas the lowest mounds are mere bumps on the landscape, little more than 50 cm high.¹⁶ But these heights can be deceptive, given the alluviation of the Colchian Plain. In most cases the original foundational layer of the settlement is buried well below the current surface – up to 5 m below in some cases. Across the base, mound sites measure from 160 m (Namarnu) to 20 m in diameter (Lekhaindrao dikha-gudzuba), the smallest known mound size of this period.¹⁷

Dune settlements, whose function has not been properly explained, are located on the sandy littoral of the Black Sea. Even though the Black Sea has transgressed up to 5 m in recent decades, suggesting some sites may well be submerged, the position of these dune settlements so close to the water's edge appeals to the notion of fishing as part of the economy. Such an idea can only be tested with high-resolution data collection of zoological remains. Finally, there are those sites nestled in the foothills, generally positioned on bluffs or knolls. Both mound settlements and flatter ones can be found in this region,

¹⁵ Mikeladze and Khakhutaishvili 1985: 20–21.

¹⁶ Apakidze 2005: 175.

¹⁷ The term 'dikha-gudzuba' is Mingrelian and means 'raised ground'. I thank Maka Chkadua for explaining this to me. A sample of settlement sizes are 2.5–2.7 ha (Sakulia and Kopitnari), 2 ha (Nosiri), 1.8 ha (Chaladidi Zurga), and 1.2 ha (Naokhvamu); Apakidze 2005: 181.

and some like Ochkhomuri (ca. 1 ha) are primarily manufacturing sites, possibly established in proximity to resources.

Pichori

The cornerstone of the west Georgian Bronze Age sequence is Pichori, a settlement of multiple parts, covering some 12 ha, clustered less than half a kilometre from the Black Sea coast in the region of Gali (Abkhazia).¹⁸ At the centre of the complex is the largest mound (Dikha Gudzuba) – a circular feature, 70–80 m in diameter, rising 5 m above the ground – around which are situated twelve low hills (*gudzuba*). These hills are arranged in two rows, mostly established in the final phases of the settlement's occupation, presumably as population numbers increased.¹⁹ The entire group is encircled by an artificial ditch that was connected to a canal, filled by the Gagida River, which eventually led to the Black Sea coast. As Pichori grew, the ditch was modified and enlarged.

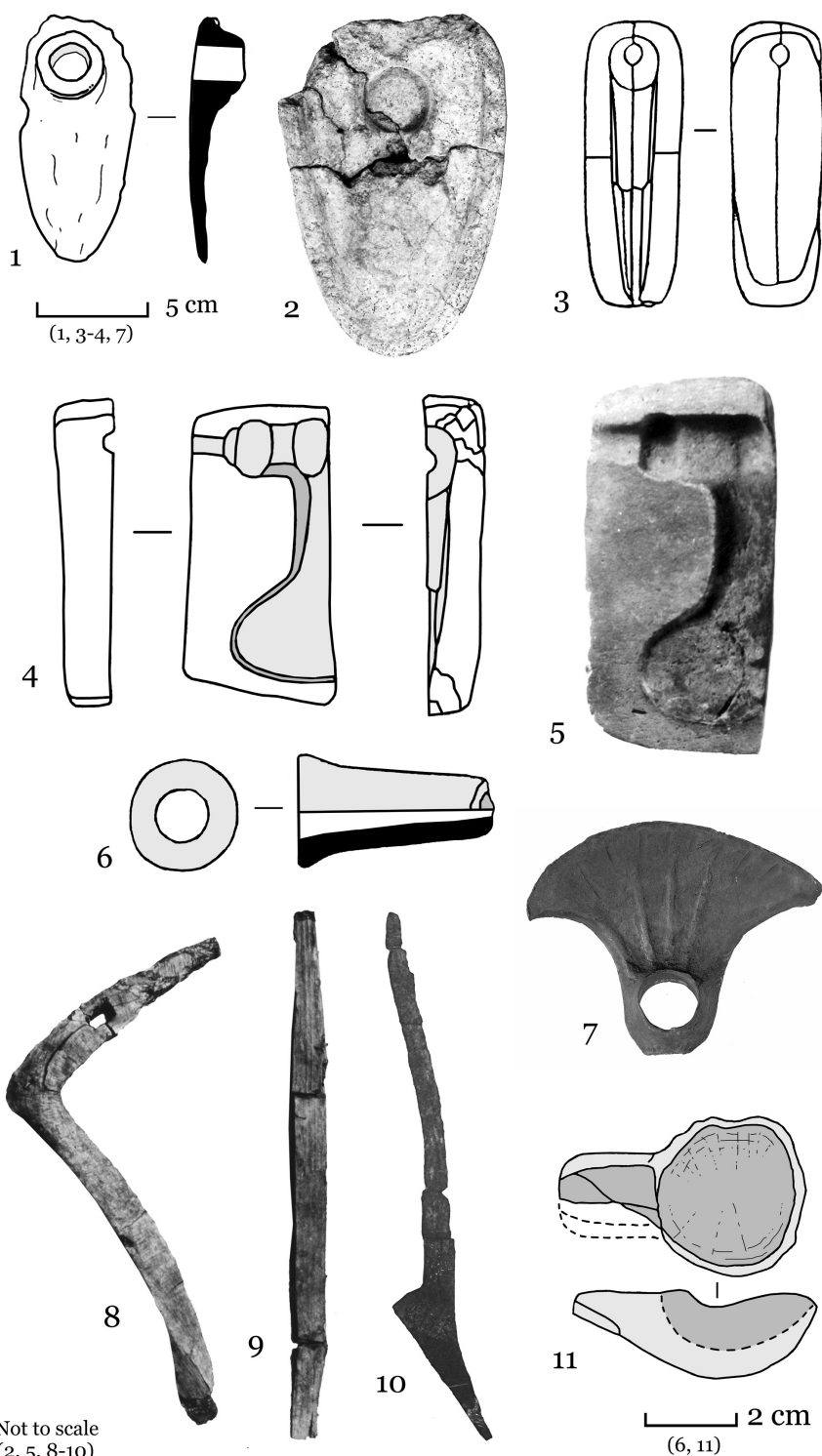
The long stratigraphic sequence of the central mound, carefully delineated over a decade of investigations (1980–1991), is highly significant. Eight stratigraphic layers of cultural and architectural debris attest to continuous occupation at Pichori, the only settlement in western Georgia that has the full Colchian sequence, extending from the third millennium BC to the fourth-third centuries BC. A village (Level VIII) was established in this humid region around the beginning of the fourth millennium, a date determined tentatively by just one radiocarbon reading (TB 460) 3012–2832 cal BC at 95.4 per cent probability.²⁰

This Proto-Colchian village and the one that followed (Level VII, 2100–2000 BC) heralded the settlement's pre-eminent role as a centre of metallurgy. One room in Level VIII had no less than sixty bipartite moulds, used to cast tubular-butt axes with rounded blades, and many moulds for triangular hoes (Figure 10.1). One hoe was found intact, still within its mould. These hoes, absent from the Koban cultural province, are a defining type of western Georgia, and indicate the important role farming played in Pichori. Two roughly hewn ploughs were found nearby. The room also yielded unique moulds, which came in four parts, for casting both daggers and spears. The cultural debris of this Early Bronze Age settlement, consisting of a mix of numerous moulds, bowl-shaped vessels with molten metal residues, ash pits, slags, and tuyères, points to an intensive and innovative metal workshop. But Pichori was not a standalone production site. Copper ores had to be transported to its location on the coastal fringe from deposits in the Caucasus Mountains, some 250

¹⁸ Dzhibladze 2007.

¹⁹ The following dimensions and descriptions are provided by Dzhibladze (2007) for three of the smaller mounds: no. 6 is built on a platform; no. 10, 2 m high and 40 m in diameter; no. 4, 1 m high and 35–40 m in diameter.

²⁰ (TB 460) 4245 ± 60 BP.



Not to scale
(2, 5, 8-10)

Figure 10.1. Pichori: (1-5) metallurgical moulds; (6) tuyères; (7) hoe; (8-10) wooden ards; (11) crucible (after Pkhakadze and Baramidze 2008, no. 7 photograph A. Sagona).

km away. Pichori, then, was clearly part of a well-organised metallurgical network that included mining and manufacturing centres. Also Proto-Colchian in character are the following two Middle Bronze Age levels: Level VI (2000–1900 BC), an interlude between the Early Bronze and Middle Bronze Ages, and Level V (1900–1700 BC), pinned by another single chronometric date of (TB 450) 2026–1742 cal BC.²¹

The transition between ‘Proto-Colchian’ and ‘Ancient Colchian’ can be discerned in Level IV, a phase between the Middle Bronze and Late Bronze Ages, where ceramics characteristic of both ages were found in association. This is the first and clearest example of this transition at any west Georgian settlement. Finally, the last expressions of the Colchian culture are evidenced in Levels II and III, comprising the Late Bronze Age and the beginning of the Iron Age, before the settlement was abandoned, possibly owing to the Black Sea transgression. This period is well represented across the entire site – the central settlement and its satellite mounds, an area encompassing about 10 ha. The large scale of the settlement, the unified defensive system of canals, and the richness of the material culture point to a thriving economic centre, which the excavators suggest was ‘proto-urban’ in character. There is a standardisation in artefact types, including pottery, which displays two broad classes: one is hand-made, polished and ornamented with relief festoons and chevrons, whereas the other is wheel made and plain.

Structures in western Georgia were built mostly from wood. One of the clearest examples is Anaklia II (2000–1500 BC), which reveals a complex system of wooden building (Figure 10.2).²² The platform was built first. Wooden beams and tree stumps were driven into the swampy soil. Then, wooden fences delineated the area into quadrangular areas up to 2.5 x 1.5 m packed with earth. This platform provided a firm and elevated surface for houses and utility buildings, which, on average, measured 20 m². They had wooden floorboards and walls constructed with thick wooden beams. These complexes had narrow corridors and adjacent rooms used for food storage, or as barns for cattle. At the industrial sites of Ochkhomuri and Natsiskvilari the distribution of wood fragments, charcoal, and wattle-and-daub pieces suggest that workshops and dwellings were tightly packed together, often abutting each other.

PITS AND STONES: THE DIVERSITY OF BURIAL PRACTICES IN COLCHIS

Gobejishvili has identified nine main tomb types for the Late Bronze–Early Iron Age period in Colchis, representing even more diversity than was found in the Koban cultural province:²³

²¹ (TB 450) 3540 ± 55 BP.

²² Muskhelishvili et al. 2008.

²³ Gobejishvili 2014.

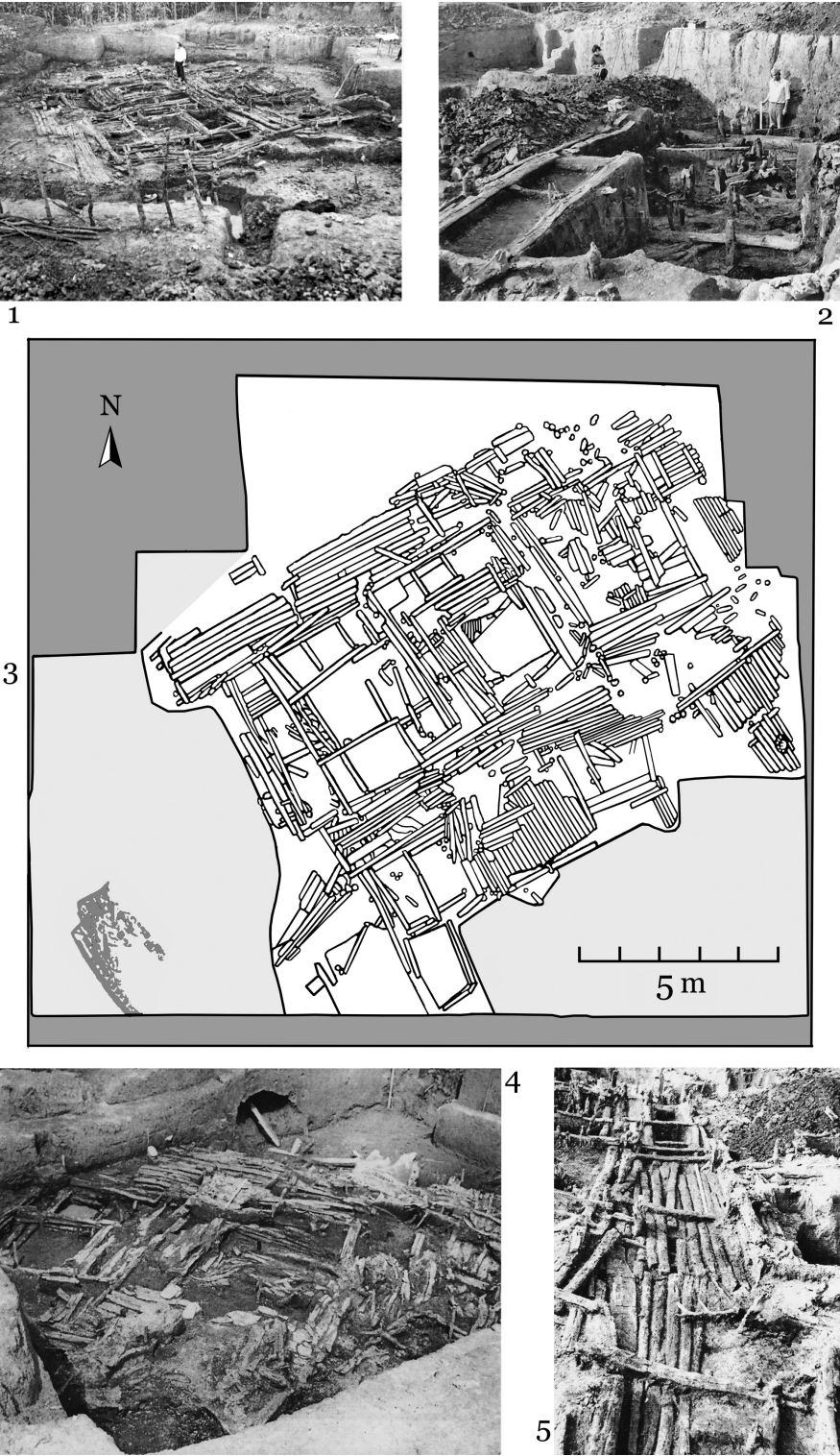


Figure 10.2. Anaklia, Level II, showing the well preserved wooden structures and platforms (nos. 1, 4, 5 courtesy R. Papuashvili; nos. 2, 3 after Muskhelishvili et al. 2008).

1. **Simple earthen pits approximating a rectangle, oval, or circle in plan:** This is the most common form of grave, accounting for about 33 per cent of the total published, coherent evidence. The dead were generally buried, in a flexed position on either side, though cremation burials were widespread, especially in the north-western area at the site of Guadikhu. There the dead were cremated at another site and their ashes transported and deposited in the pit.
2. **Earthen pits covered with a stone layer:** This type is found throughout the Late Bronze–Early Iron Age period, but is especially common in the later centuries. The layer of stones can conform to the shape of the pit that it seals, such as at Khutsubani, where it is rectangular, or it can be square or oval. While inhumation is the prevalent mode of ritual, cremations are attested at Khutsubani, where, unlike the custom at Guadikhu, the dead were burnt within the pit. This is determined by the quantity of ash and burnt bone in the tomb.
3. **Earthen pits defined around the edge by a ring of stones on the surface:** Gagra, assigned to the early first millennium BC, is the only site known to have this version of a pit grave. Unusually for a pit grave, the deceased was placed on his or her back.
4. **Earthen pits with a stone layer and encircled by a ring of stones:** These have inhumation burials.
5. **Earthen pits with a timber framework:** We have come across this burial type in Chapter 9 on Koban and details need not be repeated here.
6. **Stone cist tombs:** Not a common type, this is found mostly in high-altitude sites, such as Brili, where – apart from one tomb that contained a double inhumation (male and female) – only men were buried. The stone for the slabs for the Brili tombs was mined locally. Interestingly, as Gobejishvili has noted, the investment of labour to construct these tombs suggests wealth and power, yet on the whole the grave goods cannot be easily distinguished from those found in other tomb types.
7. **Earthen pit for collective burials:** This is a rare type of site in Colchis, found only at Goradziri and dated to the eighth century BC. Fragments of burnt charcoal suggest an internal wooden chamber and possibly even a cremation rite.
8. **Ossuaries:** Found only in Abkhazia, at Eshera, Vereshaginskaya Gora, Tsiteli, Shukura, Primorskoe, and Zvandripsh, these stone structures harboured the bones of multiple individuals.
9. **Barrow (kurgan):** A rare type in Colchis, found only at Goradziri, where examples are disturbed and eroded.

HOARDS AND THE DESTRUCTION OF WEALTH

'Tales of treasure buried in remote locations, and guarded by possessive monsters', as David Wengrow aptly notes, 'are deeply embedded within the folklore of Eurasia'.²⁴ Although such enduring stories have been transmitted in words, they nonetheless raise the intriguing possibility that their resonance in the human psyche may echo muffled customs from the remote past. Within greater Eurasia is the Caucasus, where the intentional deposition of a cache of copper or bronze objects (a hoard), or a single item of metalwork not associated with any other artefact, is one of the most distinctive cultural practices of the Late Bronze–Early Iron Age period. Whether individual or multiple items, these depositions are usually found at some distance from a centre of population. The majority of hoards in the Caucasus have been discovered in western Georgia, where about 150 have been attributed to the Colchian culture.²⁵

Elsewhere, some twenty Koban metal depositions have been found in the northern Caucasus, and even fewer (around thirteen) are associated with the Samtavro culture in the Shida Kartli region. Metal-hoarding is not unique to the Caucasus. In Europe, hoards are one of the most archaeologically visible features, yielding the majority of Bronze Age metalwork and totalling more than the items recovered from settlements and burials combined. Interestingly, hoarding is not a cultural characteristic found in the Near Eastern heartlands or Egypt, but it does occur in the eastern Mediterranean coastal lands, around the Persian Gulf and in northern Afghanistan.²⁶ Further east, beyond the boundary of the Harappan province, metal hoards are a feature of the Doab, the flat alluvial tract between the Ganges and Yamuna rivers in northern India.²⁷ Such sustained, expansive and large-scale hoarding is not a fortuitous incidence, and it differs in character from metal consumption in the urban centres of the Near East, where individual elite burials (an event) were the usual repository of precious items.

Items buried in the Colchian hordes are mostly metalwork, and share many similarities with those from the Koban. We need not discuss them again except to draw attention to the 'Colchian axe', the western Georgian counterpart of the Koban axe. These Colchian axes are found as part of hoards and also in graves with multiple burials (Ergeta). Although one or two have been found further east of the central Caucasus, the boundary of their geographical distribution can be drawn at Zhivali.²⁸ The Colchian axe is distinctive in shape: a semi-circular blade, a long neck with hexagonal section, and an

²⁴ Wengrow 2010: 100.

²⁵ See also Apakidze 2000; Lordkipanidze 2001b.

²⁶ Wengrow 2010: map 6.

²⁷ Yule 1997.

²⁸ Reinhold 2007: fig. 22, pls. 42–4, lists 94–106 (categories Ax C1–5, D1–D2).

elongated shaft-hole. This combination of features produced a series of ridges along the neck. Like the Koban type, the earliest examples, from Pilenkovo and Korochi, are thick and stubby, and date to the Middle to Late Bronze transition. Gradually, the neck lengthened but never developed the sinuous profile of the Koban variety. In profile, the Colchian axes are often asymmetrical, with accentuated shaft-hole ends. Many Colchian axes are distinguished by elaborate incised designs that cover their whole surface;²⁹ most favoured are geometrical and fantastical animals skilfully accommodated on the blade.

So, then, how can the practice of metal hoarding be explained? An early interpretation of the Caucasian (and European) hoards saw them as property buried in a hurry, most likely in times of crisis, and thereafter never retrieved.³⁰ Given the scale of this practice, such an explanation is no longer plausible. Generations of European archaeologists have debated this phenomenon and have come up with a number of interpretations, which generally fall into four broad models: utilitarian, economic, personal, and ritual.³¹ There is also a general consensus that collections of multiple objects, especially those deposited over a long period of time, represent the act of a community, whereas single items represent the activity of an individual.

Hoards are assigned to one of the four models based on either their character or the geography of the find spot. Pits filled with scrap metal – mis-cast, well-worn, or accidentally broken items – are generally viewed as ‘smiths’ hoards’, utilitarian in nature, which were buried for security and in readiness for recycling. Support for such an idea is provided by the accoutrements of metalworking sometimes found in these depositions – crucibles, moulds, waste metal, and ingots – as well as the careful sorting of metal types into lots. These metalsmiths’ hoards were buried in dry-land areas where they could be retrieved. Different are those caches that have multiple copies of the same item, or unused objects, buried not long after they had been manufactured. Such collections are seen as having once belonged to traders (‘merchants’ hoards’), who concealed the items in an accessible place, but for whatever reason never reclaimed them. So, these are interpreted in economic terms. Personal hoards are different again. They incorporate single item finds, generally reflecting individual ownership, such as a piece of jewellery (pin, bracelet or a fibula), or a set of tools.

Finally, there are hoards that comprise many different kinds of objects. Large and small, elaborate or plain, these valuable items are thought to have once belonged to a community that, over a lengthy stretch of time, threw them into a bog, river or lake, never to be retrieved. These ‘sacrificed’ or votive items are interpreted as part of a ritual process whereby the community gained social

²⁹ Koridze 1965; Pantskhava 1988; Skakov 1998.

³⁰ Koridze 1965.

³¹ Bradley 1998, 2013; Harding 2000: 352–68.

and political clout through the destruction of precious objects. This model of wealth consumption draws its inspiration, in part, from the same notion as potlatch, a gift-giving feast of the indigenous peoples of northern America. In this essentially economic system, a chief would display his power to a guest by giving away or destroying goods. In turn, in order not to diminish the leader's power, the guest was required to reciprocate 100 per cent of the gifts and destroy more wealth. This process of conspicuous and public consumption would continue until one of participants was no longer able to reciprocate.³²

CERAMIC PRODUCTION

Proto-Colchian I pottery is handmade and represented mainly by two broad ware types.³³ One has a fine biscuit, grit temper and polished black surface, whereas the other is thick-walled with a coarse fabric. Both are well represented at a number of sites, including the earliest level at Dablagomis Nazichvara. Typical vessels for the early stage of Proto-Colchian I are jars with cylindrical bodies, bowls with out-turned rims, and large jars with massive bases, sometimes decorated with flax or plant prints (Figure 10.3(1–3, 8, 11, 13, 16)). Only a small part of the pottery is decorated. New features appear towards the end of the Proto-Colchian I – conjoint and horizontal handles, and black-polished containers with lentoid handles. Mat impressions peter out by this stage. Predominant forms of ornamentation are finger-impressed relief bands and intricate geometric patterns. Features continue to evolve in the Proto-Colchian II period, especially in handles. Surfaces are still black polished with finger marks, but are less refined than those of the preceding period.

Late Bronze Age (Ancient Colchian I) pottery developed directly out of Middle Bronze Age (Proto-Colchian II) wares, a transition documented at several sites, including Pichori (Level IV), Anaklia (Level II) and Nosiri (Figure 10.3(4–5, 7, 9–10, 12, 14, 15)). The fabric is still coarse and poorly fired to a black, grey, or dull red-brown colour. Forms are initially limited in range. Generally speaking, Ancient Colchian I pottery is distinguished by a tendency towards increased and elaborate decoration.³⁴ Decoration is mostly restricted to the upper half of the vessel, including the rim, and occasionally defined by a row of decoration or a groove, though a good number of containers are ornamented all over. Incised semi-circles, either pendant from a decorative band or unattached to other motifs, usually placed at the shoulder, are a common element. Potters also use comb-stamped ornaments (a hallmark of Pichori

³² On the anthropological theory of values, see Graeber 2001, who revisits Marcel Mauss' ideas on potlatch.

³³ Jibladze 1997: 71–8.

³⁴ Apakidze 2008.

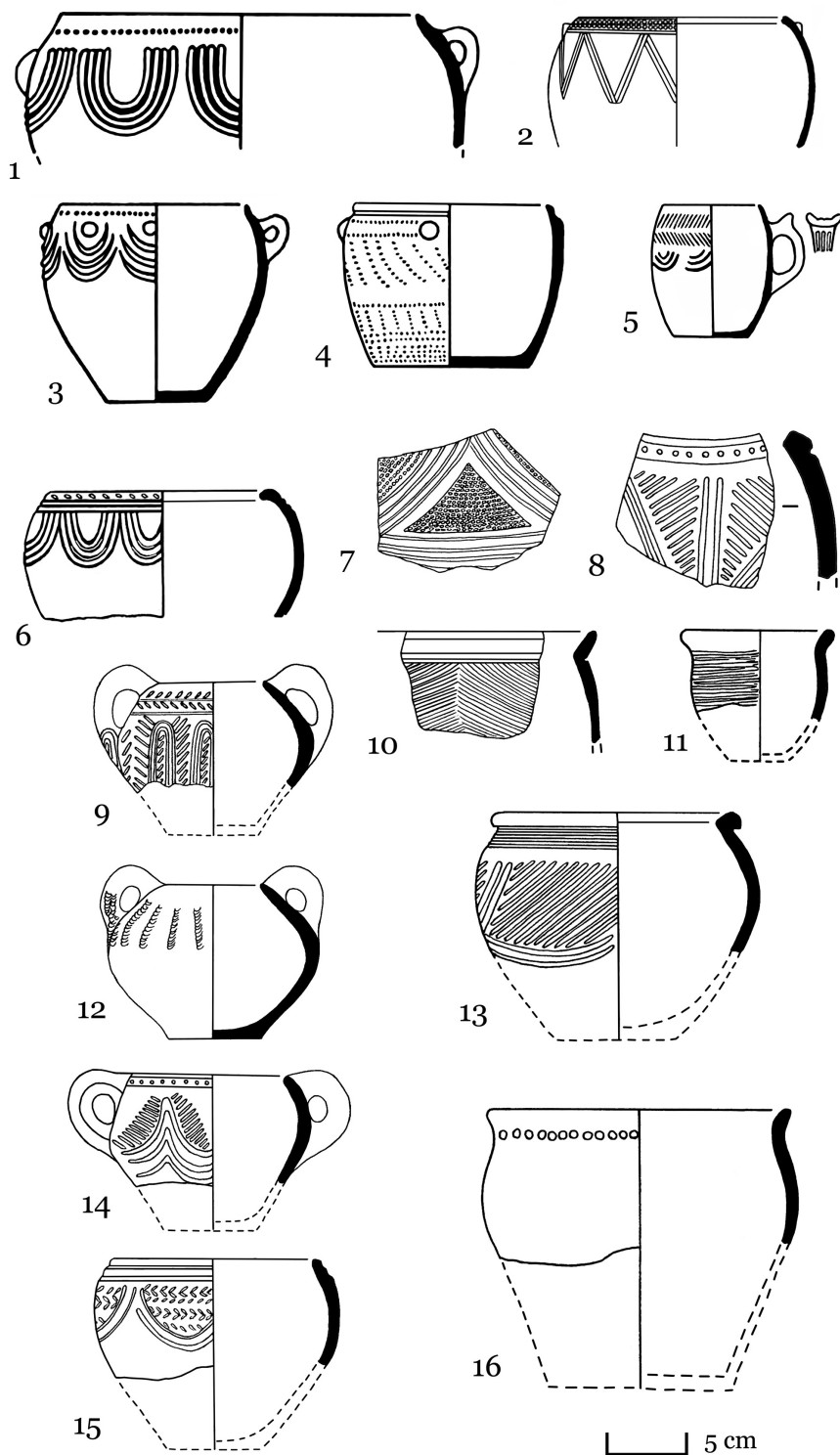


Figure 10.3. Proto Colchian ceramics: (1–3) Anaklia; (6) Pichori; (8, 11, 13, 16) Mamuliebis Dikha-Gudzuba. Late Colchian: (4, 5) Anaklia; (7, 9–10, 12, 14, 15) Mamuliebis Dikha-Gudzuba (after Papuashvili and Papuashvili 2008; Apakidze 2008).

Level III) and plastic knobs of varying size that are now found alongside oblique rows of notches, herringbone patterns, and wavy lines. Relief ornamentation is rare and usually confined to rather crude wavy lines. The last phase of the Ancient Colchian I assemblage witnessed the appearance of elements that foreshadowed the Early Iron Age: broad vertical flutes, and 'zoomorphic' handles that are essentially a horned version of a spur handle.

In the Early Iron Age (Ancient Colchian IIA), wheel-made pottery is introduced in small quantities and baked to the same low, reducing temperatures as handmade vessels – black, grey, and red-brown are still the predominant colours. Surface treatment is on the whole duller, and only rarely are vessels given the polish that distinguishes the earlier periods. The range of forms is more diverse than in earlier centuries, possibly suggesting a change in cuisine. Gone are hemispherical bowls, and containers with rounded shoulders and inward curving rims are few and far between. Jars and pots now have out-turned mouths with rims that can be sharply profiled. The neck, too, is pronounced, with simple horizontal grooves or even a band of rilling.

A widespread drinking culture is conspicuously reflected during the eighth and seventh centuries in the range of drinking beakers (Figure 10.4). A new and distinctive form is the vertically fluted beaker with a pointed base, and a handle boasting a pair of horns. Bold fluting is not a local form of decoration and its introduction is sought in connections with Bulgaria and the Aegean.³⁵ Another novel motif is rows of running spirals. Otherwise, comb-stamped designs and bands of geometric patterns (herringbone, notches, net designs, and wavy lines), now executed with more flare and refinement, continue to appeal.

Potters of the eighth century BC (Ancient Colchian IIB) rarely built containers by hand – they now almost always used the wheel. They also had little time for polishing their wares, which are rather coarse to touch and in fabric. Ornamentation became simpler. A greater and swifter production of pottery overshadowed the traditional and time-consuming attention to fine detail. The last phase, the seventh century (Ancient Colchian IIC), is distinctive in many respects. Not only does the quantity of pottery increase, so too does the range of forms, with potters embracing many new shapes. Form takes primacy over decoration. This proliferation of shapes is best reflected in the number and variety of drinking vessels. Although traditional mugs and beakers with round profiles continue, we now have a range of tall drinking tankards, often supported on a stump base. Other new forms include high-shouldered jars and handled jugs. If vessels are ornamented, they are usually fluted vertically or have a few discrete horizontal lines to highlight specific parts of the vessel.

³⁵ Apakidze 2009.

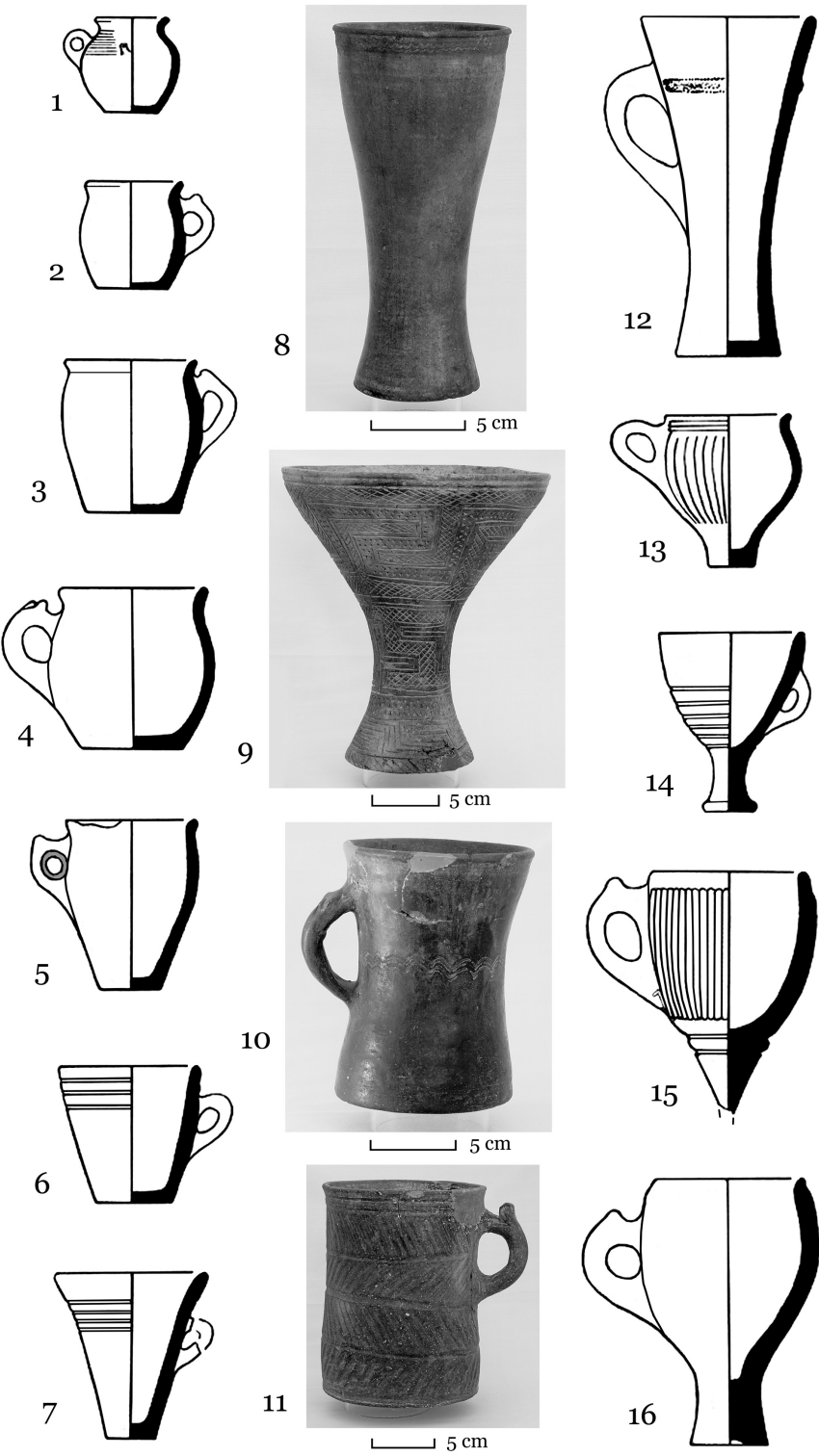


Figure 10.4. Principal types of ancient Colchian drinking beakers 800–600 BC; no. 9 is from Samtavro (after Apakidze 2008, photographs A. Sagona).

COLCHIS AND KOBAN: THE YIN AND YANG OF THE CAUCASUS?

The relationship between Colchis and Koban in the Late Bronze and Early Iron Age is a contentious subject. Were they the same cultural complex, or are we dealing with two separate communities that had a close cultural relationship? There is much to recommend the view that, like the principle of yin and yang, Colchis and Koban were complementary forces that interacted to form a dynamic system in which the whole was greater than the assembled parts.

At the core of this matter is the striking resemblance between certain metal objects from western Georgia and the northern Caucasus, such as highly ornate axes, which at the very least display a tradition of sharing technological ideas and artistic trends.³⁶ First raised in the early twentieth century, this deliberation shows no signs of abating.³⁷ Numerous studies have created a web of regional interconnections, some tight and others diaphanous, in an attempt to evaluate this relationship.³⁸ But metallurgy and metalwork are not the only features the two regions had in common. The view that Colchis and Koban is a unitary archaeological culture has also focused on burial architecture, funerary rites, and even ceramics. Close examination of the evidence, however, does not bear this out. Moreover, there are clear-cut differences in economic practices and modes of architecture and settlement patterns (usually dismissed in terms of a rather inadequate environmental determinism – different climate means different settlements) that support the separation of the two.³⁹

Burial practices in western Georgia and the northern Caucasus have often been seen as too diverse to distinguish regional differences, and so they have been lumped together as a common feature. But, as Gobejishvili has noted, while the two culture provinces do exhibit similarities in modes of mortuary traditions, both have a number of customs that are not shared. Four tomb types (graves with a stone layers and ringed with stones, graves with a timber structure, collective burials, and ossuaries) are found only in Colchis, whereas burial vaults and cromlechs are prevalent only in the Koban region. The rest of the burial types are common to both regions. But, even then, they do reflect discrepancies.⁴⁰

³⁶ Voronov (1984: 10) discerns twelve regional variants of the Colchian-Koban metallurgical province: Colchis (central, northern, and southern); the south-eastern and north-eastern Black Sea areas; Racha-Lechkhumi-Svaneti; Tli cemetery; Samatvro cemetery; and the Koban (central, eastern, western, and upper) province. In a recent study, Apakidze (2009) slices up this metallurgical province into three regions: the northern Caucasus, western Georgia, and north-western Shida Kartli.

³⁷ For an early discussion, see Ivascenko 1932.

³⁸ A historical summary of this debate can be found in Apakidze (2009: 12–23).

³⁹ Voronov 1984: 11.

⁴⁰ Gobejishvili 2014.

For a start, circular earthen pits are not known from the northern Caucasus. And while inhumation is by far the preponderant mode of burial in that region, in Colchis, especially in the western part of the province, many people were cremated and their ashes placed in earthen pit tombs. In the northern Caucasus, cremation was never associated with simple earthen pits. Another marked difference concerns secondary burial in simple pits: this rite was practised in Colchis (for example at Gagra and Ureki), but never in the northern Caucasus. Inhumations in a simple pit also show variability. Both regions generally laid the dead to rest in a flexed position. In the eastern part of the Koban culture there was differentiation according to sex – males were placed on their right sides, females on their left. Broadly speaking, this rule was also applied at Tli. But on the whole, neither the communities of Colchis nor those in the northern Caucasus adhered to hard and fast rules in relation to position.

Earthen pits sealed with a layer of stones are another shared tomb type, but there are more differences than commonalities between the two regions. While the funerary rite of burning the body within the pit is recorded at both Khutsubani (Colchis) and Kumush (northern Caucasus), the excavators argue they are not contemporary sites, though it should be noted that we have no radiocarbon dates. Khutsubani is assigned to the early centuries of the first millennium and Kumush to a later date, making it difficult to draw inferences based on commonality. Rites associated with tombs from both regions that are sealed with stones are associated with funerary feasts, as clearly shown by the quantity of animal bones found in the pits.

Cist tombs are a feature of both Koban and Colchian cultures, but they are far more common in the north-central Caucasus. Inhumation in a flexed position is the norm in both cultures, with no rigid rules on orientation; the deceased were never placed on their backs.

Barrows are more common in the northern Caucasus than in western Georgia, where only one site (Goradziri) is documented. Their appearance in the Koban culture is late, about 750 BC, and generally assigned to Scythian influence. Whether they represent political and economic connections or possibly a movement of people, is not altogether clear. There is no question that syncretism occurred – it is seen in the novel idea of covering local modes of burial architecture with barrows of earth – but whether this is part of an acculturation process of new groups or simply a transfer of ideas remains to be seen.

Earthen pit burials defined by a row of stones around the edge are rare in both cultures, chronologically not coeval, and spread across quite different environments. The west Georgian versions are earlier than those in the northern Caucasus and also differ in the way the dead are laid in a supine position.

Gobejishvili correctly argues that the currently restricted data on cremation rites, geographically dispersed and chronologically expansive as they are, do not

substantiate Kozenkova's idea that this funerary custom arrived from the West European steppes, from the territory of the Timber Grave culture.⁴¹

Although, on the surface, the northern Caucasus and western Georgia display a general uniformity in range of tomb types and funerary rites, close and detailed inspection reveals dissimilarities. Mortuary practices alone should not be taken as an argument in favour of uniting the Colchian and Koban cultures. Wealthy tombs aside, the general uniformity of grave finds, irrespective of tomb type, does not argue for different peoples as much as a shared ideology based on the 'currency' of the day – metalwork.

Tin in the Caucasus?

In the previous chapters we discussed the appearance of tin bronzes in the southern Caucasus in the third millennium and the implications for long-distance exchange networks. The question of Bronze Age tin supplies to the Near East has been hotly debated and involves hypotheses of exchange stretching from the lands of central Asia through Anatolia to territories beyond.⁴² Despite conflicting views on whether or not the Caucasus Mountains have tin deposits, the region has lain in the shadow of mainstream discussions.⁴³ Apart from tantalising glimpses of early tin bronzes such as the copper bead from Neolithic Arukhlo, direct evidence for mining and production has been lacking. Yet the sheer quantity of tin bronzes during the Late Bronze Age through Iron Age I period suggests mines were close by. While it is possible that tin was imported in the form of ingots from distant locations, it is unlikely, given the quantity that would have been required, that it would have arrived as cassiterite ore. Moreover, if tin did arrive from the east during the second half of the second millennium, it does not seem to have been accompanied with the flow of other material things.

Western Georgia is richly endowed with copper ore deposits. They are complemented by hundreds of smelting sites, many attributed to the Late Bronze Age–Iron Age I period and located in isolated locations, which collectively reflect a high level of metallurgical activity and know-how.⁴⁴ Amongst the metalworking debris are large numbers of crucibles bearing slag residues from copper production. A recent study of these slags and ceramics fragments carried out by Nathaniel Erb-Satullo and his team has delineated various stages in the process.⁴⁵ First, large slag cakes were left in sizeable vessels to cool, they were transferred then to smaller crucibles to be refined in the second step of the process. The result was a copper-rich metal relatively free of iron.

⁴¹ Kozenkova 2004: 153.

⁴² For a succinct summary of views, see Erb-Satullo et al. 2015: 261.

⁴³ Courcier 2014.

⁴⁴ Khakhutaishvili 2009; Erb-Satullo et al. 2014.

⁴⁵ Erb-Satullo et al. 2014

Significantly, one crucible sherd was used to produce tin bronze. Although it remains a unique case, it nonetheless necessitates re-visiting early claims for slags rich in local tin. More importantly, it lends support to the view that at least some of the tin used to produce the Colchian bronzes of the second millennium came from local sources. One suggestion, based on geology, is that sources might be located in the Bzhuzhi and Vakijvari gorges. If future research can demonstrate the occurrence of local sources and their exploitation, we would need to develop a new model of supply and demand that would necessarily be different from the long-distance exchange models that are applied to the eastern Mediterranean and the Near East.

The Rise of Iron

The ... benevolence of nature has limited the power of iron itself by inflicting on it the penalty of rust and the same foresight by making nothing in the world more mortal than that which is hostile to mortality. (Pliny *Natural History* 34:141)

This eloquent quote from Pliny reminds us that despite the many useful qualities of iron, its capacity to corrode is far greater than that of other metals such as bronze, silver, and gold. Even though only a relatively small quantity of iron artefacts have survived from antiquity compared with those manufactured from other metals, iron became very popular and its acceptance spread rapidly, so that, in time, iron tools and weapons were viewed as utilitarian. In terms of technological innovations, iron-making would have to rank as one of the most significant of the ancient world. Working iron certainly required more fuel and significantly more labour than working bronze.

It is useful, if only for historiographical reasons, to remind ourselves of V. Gordon Childe's influential views on technological progress.⁴⁶ According to Childe, the ubiquity of iron ores meant that tools and weapons could be produced cheaply once metalsmiths became proficient in the complicated smelting process. Iron objects quickly became utilitarian, affordable to many; bronze, on the other hand, was always considered a luxury metal, owing to the restricted access to copper and especially to tin, which were imported from distant sources. The introduction of iron, then, was seen as a democratising influence that cut across monopolies and reduced the power of elites.

In reality, the narrative is not so straightforward. Any study of the beginnings of iron production, as indeed any investigation of the history of technology generally, must take into account the social, political, and economic situations of the communities involved.⁴⁷ It is no longer feasible in archaeology to study

⁴⁶ Childe 1944.

⁴⁷ Nathaniel Erb-Satullo and his colleagues are currently investigating these perspectives as part of the Archaeological Research in Kvemo Kartli (ARKK) Project based at Mtsvane Gora.

early metals purely from the perspective of their technical qualities, in a manner that divorces them from the broad context of human behaviour. Childe's views on technological progress, which emphasised rationality and 'scientific' experimentation over serendipity and ritual, is still adhered to in some quarters of archaeometallurgy with statements such as 'the composition of the materials can give far more unambiguous information on the technology of the process which produced them than on the society that made and used them'.⁴⁸ Behind such a deterministic view is the notion that technology per se acted as a primary driver in social relations. It accords primacy to the end result, the artefact, rather than examining the technological system that produced it as part of a spectrum of intersecting human choices and actions that stimulated cultural change. This largely western view of technological development is ubiquitous in our modern world, with its focus on the usefulness of scientific ideas in improving human competencies and changing modes of living.⁴⁹

Given the organisation of labour and technical expertise required for both iron-smelting and blacksmithing processes, it is easy to overlook the importance of ritual that accompanies iron making in many societies across the globe. In certain mythologies, meteoric iron, utilised long before the knowledge of smelting iron ores was acquired, was referred to as 'celestial metal' and associated with sky and fire.⁵⁰ This heavenly sacredness was accompanied by a terrestrial reverence once smelting was discovered. Iron ores were viewed as coming from the womb of Mother Earth where they matured, finally undergoing a miraculous transmutation at the hands of the smith. Iron was a deeply revered substance, sacred yet capable of evil. This magico-religious power extended to smiths, who were highly valued members of societies, yet feared and isolated, at times even scorned. As we study ancient iron, let us not forget the ambivalence associated with the substance and its creation, matters that are closer to alchemy than to modern science.

Before we examine the evidence for iron metallurgy in the Caucasus and how it can inform us on its societies we must review, however summarily, the ideas on three key questions. Why did communities in general turn to iron? How did iron production emerge? And when did the Caucasus adopt the metal? Some thirty-five years ago, Anthony Snodgrass proposed a useful sequence for the development of 'working iron':

The criterion used ... is that of 'working iron', that is, iron used to make the functional parts of the real cutting and piercing implements that form the basis of early technology. ... Using this criterion of working iron, we can discern three broad stages in the development of an iron technology; they are I think applicable to every area of Eurasia ...

⁴⁸ Craddock 1995: 2.

⁴⁹ Pfaffenberger 1992.

⁵⁰ Eliade 1987. For more detailed case studies on the mythology of iron, see Eliade 1978.

In *stage 1*, iron may be employed with some frequency, but it is not true working iron. ... In the main, its employment is for ornament, as is appropriate for the expensive commodity which we know it to have been in many cases. ...

In *stage 2*, working iron is present but is used less than bronze for implements for practical use.

In *stage 3*, iron predominates over bronze as the working metal, although it need not, and usually does not, completely displace bronze even in this role.

... Simple proportion alone is used to distinguish between stages 2 and 3. It might be thought that such an abstract criterion could have had little economic or industrial significance for the period in question. Yet study of many ancient cultures shows a fairly abrupt change, at a certain point, from a predominant use of bronze to a predominant use of iron, within the strict field of working metal.⁵¹

Here we are immediately struck by the fact that most literature on early iron technology is based on the substantial evidence from Israel and Cyprus. Accordingly, interpretative models revolve around a Levantine paradigm, which does not sit comfortably in the Caucasus. For a start, as we have seen, the rupture that is evident in the eastern Mediterranean between the Late Bronze Age and Early Iron Age, the so-called crisis years, is not mirrored in the Caucasus. Linked with this is the widespread view, now no longer in favour, that tin was in short supply at the end of the second millennium BC, a disruption that prompted metalsmiths to experiment with iron. Complicating this idea of a tin scarcity is, as mentioned previously, the quantity of tin bronzes from the second millennium Caucasus. These artefacts suggest that communities in the Caucasus not only had access to tin, but that they used it at the same time as they were experimenting with iron production. We could suggest that if the end of the Late Bronze Age in the Near East brought with it restricted access to tin, disruptions would have been regional and did not affect the Caucasus. Other theories maintain that iron production developed serendipitously from copper working, or the opposite view – that iron flourished in a region that did not have a robust bronze industry.⁵²

Was it iron's hardness that prompted the shift away from bronze? Carburisation and quenching would certainly have produced a harder blade than cold hammering a piece of tin bronze. Carbon is the most cost-effective alloying material for iron, and varying its amount controlled qualities such as the hardness, elasticity, ductility, and tensile strength. But our evidence for the earliest iron production is thin, and we are in no position to say whether blacksmiths intentionally carburised their iron, or whether it was a serendipitous event. The question of the origins of iron metallurgy invariably draws our attention to Colchis, where metal production on a large scale can be

⁵¹ Snodgrass 1980.

⁵² Erb-Satullo et al. (2014) summarise the views.

attested from the Bronze Age onwards. One of the striking characteristics of the Caucasus in general, and Colchis in particular, is the manner in which communities embraced both bronze and iron. This is seen in grave assemblages at Ureki, Ergeta and Nigvzianij in western Georgia, which contained artefacts manufactured from both metals. Even in the Koban culture of the northern Caucasus we find a considerable quantity of iron objects.

There are two markedly different views on the timing of early iron in the Caucasus. One position is based mainly on data collected by David Khakhutaishvili from smelting sites around western Georgia.⁵³ He argues that blacksmiths established their workshops as far back as 1800 BC, a view supported by radiocarbon and palaeomagnetic dates of samples collected from production furnaces. Khakhutaishvili also contends that iron metallurgy grew out of bronze technology, almost seamlessly, and does not maintain that the two technologies effected major changes in social or economic alignments. The main problem here is lack of comparably early iron artefacts. The nature of iron with its tendency to decay rapidly may account for this, or even the possibility that in the earliest stages of production only a few objects were manufactured, but at present the argument stands or falls on the correct interpretation of smelting sites rather than artefacts.

The alternative theory maintains that iron production is intrusive to the Colchian lowlands, where a strong, indigenous bronze industry was embedded. According to this view, the Greeks introduced iron working around the eighth to seventh centuries BC together with goldsmithery and other novelties. This model also maintains that, contrary to Khakhutaishvili, copper and iron were worked at different sites, their ores were sourced in different geographic regions, and they represent two different social and economic worlds. Palaeomagnetic and radiocarbon dating, as well as ceramics associated with furnaces and recent metallurgical analyses, largely discredits the view that iron production was an innovation brought to the Caucasus during the period of Greek colonisation.

COPPER-SMELTING THROUGH IRON PRODUCTION

Western Georgia is very rich in copper and iron objects, sources of their respective parent ores, and numerous smelting sites, which are replete with residues of intensive activity – slag, casting moulds, crucibles, and tuyères such as those from Chorokhi (Figure 10.5). As such, the region offers an ideal laboratory to test the hypothesis that iron production developed in centres that had longstanding experience in working with ores. Recent fieldwork in the Supsa and Gubazeuli river catchments recorded some fifty smelting sites scattered across the landscape, presumably in close proximity to ore and fuel.⁵⁴

⁵³ D. Khakhutaishvili 2009. See also N. Khakhutaishvili 2001, 2006, 2008. On eastern Georgia see Abramishvili 1961, 2003.

⁵⁴ Erb-Satullo et al. 2014.

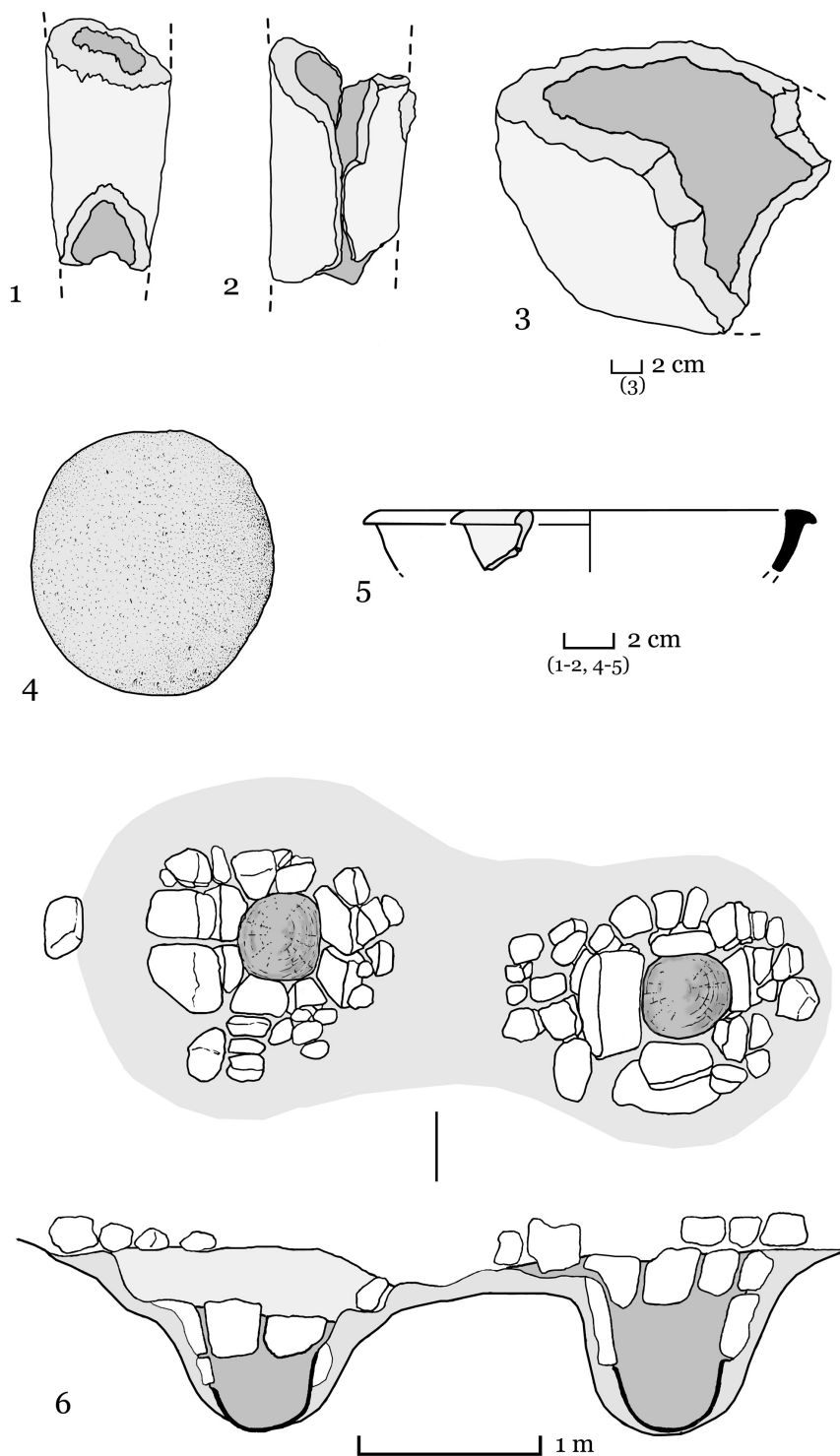


Figure 10.5. Chorokhi metallurgical finds: (1–5) tuyères, crucible and pounder; (6) furnace (after Khakhutaishvili 2008).

Houses have not been located within proximity to these sites, and other signs of domesticity such as household pottery are few. Instead, these dedicated metalworking sites have sherds of vitrified ceramics, some with slag residue, tuyère fragments, burnt platforms, and pits that acted as furnaces.

The sites in the Supsa and Gubazeuli region were all copper smelting sites, whereas slags located in the Adjara region point unequivocally to iron production. These bloomery iron slags in Adjara are rich in metallic iron and devoid of copper-bearing elements. Even so, the occasional presence of wüstite and metallic iron from slags in the Supsa and Gibazeuli region, and the very high temperatures their furnaces could reach, indicate that the coppersmiths from western Georgia had the technical skills required for iron production. Even so, no one site has as yet produced unequivocal evidence for both copper and iron smelting. This poses problems for the copper-to-iron hypothesis. Two models lend themselves to the data: one is that the production of bronze and iron comprised two separate systems, involving different technical and social processes. The other posits that they formed an integrated system and that the spatial differences between copper and iron smelting sites reflects the geographical variability of ores in western Georgia. Metalworkers might have been exploiting a range of ore-bearing deposits and experimenting with different metals simultaneously. This model appeals to metallurgy in western Georgia, whether copper or iron, embracing one social network.

CONCLUSION

By any comparative measure, whether it is the moat and canal systems that connected certain settlements, or villages built of wooden planks and logs, or even the high number of smelting sites, Colchis was a place apart. Arguably, western Georgia, more than any other region in the Caucasus, reflected a sense of cultural continuity, stretching over 2,500 years. By the end of the eighth century BC, technological advances such as the widespread use of iron foreshadowed things to come, including Greek colonisation some two centuries later. By this stage, bronze metallurgy had diminished substantially. Colchian bronze axes all but disappeared, with most implements now forged on the blacksmith's anvil. The heyday of bronze had passed, and though the metal still had appeal, it was restricted to the production of jewellery and special items such as cauldrons. From its fledgling days in the Late Bronze Age, iron production grew rapidly. The occasional weapons forged in iron soon gave way to mass-produced items. By the beginning of the seventh century the bronze-working artisan had been reinvented as a functional blacksmith, producer of utilitarian items.

Another striking characteristic of Colchis is the overt sense of ritual. Two practices stand out. First is hoarding, which more than any other cultural behaviour links the region to Europe. Although the deposition of objects has been explained in various ways, the notion of 'sacrificed' wealth resonates

strongly in the western Caucasus. We can only speculate on the purpose of this consumption. We shall never know whether the burial of objects was to purchase fame, or to invoke the gods and supernatural powers, yet it is clear that these votive hoards and offerings reflect a practice that has no equivalent in the ancient Near East. The other element that distinguishes Colchian ritual is drinking, as testified by carefully made drinking vessels. In any society, alcohol is a strong symbolic substance that is used to identify, construct and manipulate cultural systems and interpersonal relationships. In much the same way as commensality pulls together a group, in Colchis drinking alcohol would have been loaded with social meaning, presumably conveying messages in terms of norms and expectations of the participants. The type of beverage, in this case presumably wine, would rarely be a personal choice and would have reinforced the sense of group participation. Through these drinking vessels, then, we can assume that Colchian communities had long-standing customs in which alcohol formalised the nature of the occasion.

CHAPTER 11

THE GRAND CHALLENGES FOR THE ARCHAEOLOGY OF THE CAUCASUS

Many words ago I stressed the Caucasus as a variegated land with its different cultural and language groups occupying different environmental zones. Sandwiched between two major seas, one can travel within a couple of days from the parched steppes to lofty snow-clad mountains, from misty sub-tropical wetlands to dry upland plateaus. Its past is no less tessellated. Despite cultural influences bearing down from Europe and strong pulses resonating from the southern lands, it managed to develop its own distinctive imprint. Although the region is endowed with a wealth of resources – metals, fur, wood, and the like – some had to be sought beyond its borders. This appetite for rare items, such as precious stones, led to varying degrees of community interaction and mobility.

This survey ends with the Early Iron Age after which the Caucasus was shaped and influenced by different competing forces: those that the region had nurtured during the centuries before and external polities that extended their sphere into the Caucasus. In the subsequent period, the Middle Iron Age (or Iron Age II), the Kingdom of Urartu dominated the southernmost reaches of Caucasia. This political shift did not bring a change in social organisation as much as a transformation in the built environment. Territories under Urartian rule witnessed the construction of new fortresses, and the rapid expansion of farming land and irrigation systems. In a thought-provoking paper, Smith and Thompson have suggested that, “the kingdom of Urartu represented the apotheosis of a distinct political tradition which developed in southern Caucasia during the Late Bronze Age, over half a millennium prior to the first inscription of an Urartian king.”¹ Drawing on evidence from the Late Bronze Age landscape of the Tsaghkahovit Plain in western Armenia, Smith and Thompson have persuasively argued that the foundations of Urartian politics

¹ Smith and Thompson 2004: 558.

were set in place well before the state appeared on the scene. Geography played a critical role in understanding this transformation: rugged and difficult to march through, the landscape also resisted unification. Settlement patterns also reflected these circumstances – highland plains harboured the fortress centres of authority around their edges, protecting the precious arable land, dispersing the polity much like an archipelago.

Later and elsewhere in the Caucasus other forces were at work. In Colchis, the Greeks began to establish colonies around the middle of the sixth century, most notably Phasis, Gyenos, and Dioscurias, though some would argue for an earlier Greek presence, in the seventh century.² The relationship between the Greeks and the communities of the Colchian hinterland is a matter of some debate, involving also the degree of Achaemenid influence in this outlying region, and archaeologically reflected in a number of artefact types such as coins.

Since this remote prehistory, several broad themes define the antiquity of the Caucasus: cultural diversity; aggressive egalitarianism versus prominent social inequality; migration and expansion; different levels of cultural interaction; the gradual transformation of the landscape from rural farmsteads to political polities dominated by fortresses; innovative technologies, in particular wheeled vehicles and metalwork; and the vacillating roles of sedentism and mobility to mention a few.

Answers to these and other topics can only be achieved within the framework of contemporary archaeology. Archaeology has become increasingly reliant on the application of scientific techniques for the analysis of cultural materials. Some of the techniques, such as isotopic and ancient DNA analyses, might easily be compared to the development of radiocarbon dating in terms of their impact and potential to change our thinking. As the capabilities of archaeological science continue to expand, so too does our responsibility to survey, document and conserve sites. Approaches to the study of the ancient Caucasus up to the mid-first millennium BC have changed markedly in the past two decades. For much of the twentieth century, the three millennia that encompass the Bronze Age were dominated by evidence from burials. Data of the dead took precedence over the living and their settlements. This mindset is changing.

Increasingly, sophisticated field methods and post-excavation techniques combined with rigorous theoretical frameworks are yielding impressive results. Nonetheless, there still needs to be improvements. A few of these avenues can be summarised as follows:

1. **Perspectives:** A movement away from self-referential studies, and the dismantling of the geo-political barriers in the study of archaeology.

² Tsetskhladze 2013.

Only then will the plethora of ‘archaeological cultures’ and their regional nomenclature be reduced to a manageable whole.

2. **Understanding processes:** The dynamics of change in the Caucasus and the relationship between human communities and the natural environment have yet to be fully explored. In a recent Santa Fe workshop, a list of twenty-five grand challenges for contemporary archaeology was articulated.³ These should be underscored for the Caucasus, where in some quarters the approach to archaeology is still catching up with other regions. Issues such as the nature of emergent complexity (and non-linear cultural development), inequality, leadership, ideology, mobility, and identity need to be framed in contemporary theoretical models and draw on the wealth and diversity of material culture available for the region.
3. **Chronometric dates:** Although we have an increasing amount of radiocarbon readings, we need many more suites of dates (not just spot dates) from secure contexts and short-lived samples.
4. **Skeletal isotopic analysis:** These techniques have the potential to change our understanding of prehistoric human behaviour. No doubt, like radiocarbon dating, both the techniques and databases will be refined through time.
5. **Ancient DNA:** Like isotopic analysis, DNA techniques hold enormous potential. In the Caucasus, archaeological cultures have been equated, either implicitly or explicitly, with genetic groups. Genome sequencing technology offers another line of inquiry into this problem. At the same time, it has already opened a Pandora’s box of questions pertaining to culture, genetics and language.
6. **Archival preservation of legacy data:** Soviet investigations have left a vast amount of archaeological finds, paper and photographic records, and documents. The preservation and storage of these data require immediate attention. The financial circumstances of the republics of the Caucasus are such that even twenty-five years after the collapse of the Soviet Union, this undertaking poses a great challenge. It is incumbent, then, on Western international collaborators to lend a hand.

³ Kintigh et al. 2014.

REFERENCES

- Abdi, K. 2003 'The early development of pastoralism in the Central Zagros Mountains', *Journal of World Prehistory* 17(4): 395–448.
- Abedi, A., Shahidi, H. K., Chataigner, C., Niknami, K., Eskandari, N., Kazempour, M., Piromohammadi, A., Hosseinzadeh, J., and Ebrahimi, G. 2014 'Excavations at Kul Tepe (Hadishahr), north-western Iran, 2010: First preliminary report', *Ancient Near Eastern Studies* 51: 33–165.
- Abedi, A. and Omrani, B. 2015 'Kura-Araxes culture and North-Western Iran: New perspectives from Kul Tepe Jolfa (Hadishahr)', *Paléorient* 41.1: 55–68.
- Abesadze, Ts. N. 1969 *Proizvodstvo Metalla v Zakavkaze v III Tysiacheletii do n.e.* Tbilisi: Metsniereba. (In Georgian with Russian summary).
- Abibullaev, O. A. 1959a *Arkheologicheskie raskopki v Kiul'tepe*. Baku: Akademiia nauk Azerbaidzhanskoi SSR. Institut istorii. (In Azerbaijani).
- . 1959b 'Raskopki kholma Kiul' tepe bliz Nakhichevani v 1955 g.', *Materialy i Issledovaniia po Arkheologii SSSR* 67: 431–452. (Russian with French summary).
- . 1961 'Eneolitcheskaia kul'tura Azerbaidzhana (po materialam Kiul' tepe)', *Materialy po Arkheologii Dagestana* 2: 68–82.
- . 1963 'Nekotorie itogi izucheniia kholma Kiul'Tepe v Azerbaidzhane', *Sovetskaia Arkheologiya* 3: 157–168.
- . 1965a 'Ostatki zhilishch vo vtorom sloe poseleniia Kiul' Tepe okolo Nakhichevani', *Materialy i issledovaniia po arkheologii SSSR* 125: 40–64. Moscow: Akademii Nauk SSR.
- . 1965b 'Pogrebal'nye pamiatniki ka poseleniia Kiul' Tepe', in *Arkheologicheskie issledovaniia v Azerbaidzhane*, edited by R. M. Vaidov, pp. 29–44. Baku: Izdatel'stvo Akademii nauk Azerbaidzhanskoi SSR.
- Abramishvili, M. 2001 'Transcaucasian rapiers and the problem of their origin', in *Lux Orientis. Archäologie zwischen Asien und Europa. Festschrift für Harald Hauptmann zum 65 Geburtstag* (Internationale Archäologie Studia Honoraria 12), edited by R. M. Boehmer and J. Maran, pp. 1–8. Rahden/Westf.: Leidorf.
- . 2003 'On the problems of the chronology of the Trialeti culture: Additional evidence for the "high chronology"', in *Problems of Caucasian Bronze-Iron Age Archaeology. Dedicated to the 75th Birth Anniversary of Rostom Abramishvili*, edited by B. Maisuradze and N. Akhvlediani, pp. 48–51. Special issue of *Dziebani* 10. (In Georgian with English summary).
- . 2010 'In search of the origins of metallurgy – An overview of South Caucasian evidence', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 167–178. Bonn: Dr Rudolf Habelt GmbH.
- Abramishvili, M. and Orthmann, W. 2008 'Excavations at Sajoge, 2003: Preliminary report', in *Archaeology in the Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 275–289. Leuven: Peeters.

- Abramishvili, R. M. 1961 'K voprosu ob osvoenii zheleza na territorii Vostochnoi Gruzii (14–11 vv. do n. e.)' *Vestnik Gos. Muzeia Gruzii* 22–B: 291–382. (In Georgian with Russian summary).
- . 2003 'Towards dating the remains of the Late Bronze Age and of the period of wide adoption of iron discovered at the Samtavro burial ground', in *Problems of Caucasian Bronze-Iron Age Archaeology: Dedicated to the 75th Birth Anniversary of Rostom Abramishvili* (Dziebani Supplement 10), edited by V. Japaridze, D. Kacharava, B. Maisuradze, G. Kvirkvelia, M. Nioradze, R. Ramishvili, and J. Amiranishvili, pp. 10–26. Tbilisi: Centre for Archaeological Studies of the Georgian Academy of Sciences.
- Abramishvili, R. and Abramishvili, M. 2008 'Late Bronze Age barrows at Tsitelgori', in *Archaeology in the Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 351–363. Leuven: Peeters.
- Abramishvili, R. M. and Gotsiridze, D. I. 1978 'Trel'skoe poselenie kuro-arakskoi kul'tury', in *Tbilisi Arkheologicheskie Pamiatniki*, edited by R. M. Abramishvili, pp. 34–47. Tbilisi: Metsniereba. (Georgian with Russian summary of illustrations).
- Abramishvili, R. M., Giguashvili, N., and Kakhiani, K. 1980 *Arkheologicheskie pamiatniki Gruzii*. Tbilisi: Metsniereba.
- Abramishvili, R. M., Abramishvili, M. R., Vashakidze, T. R., Gotsiridze, D. I., Dshugeli, D. A., Krentashvili, E. G., Pchladze, V. K., and Sultanishvili, I. V. 1997 'Archeologicheski raskopki v Tbilisi', *Polevye Arkheologicheskie Issledovaniia. Kratkie Soobshcheniia* 1988: 47–56.
- Achundov, T. I. and Narimanov, I. G. 1996 'Neue Forschungen zur mittleren Bronzezeit in Aserbaidshan', *Georgica* 19: 42–57.
- Adler, D. S. 2009 'Cultural, behavioral, and biological discontinuities at the Middle–Upper Paleolithic transition in the Southern Caucasus', in *Transitions in Prehistory. Essays in Honour of Ofer Bar-Yosef*, edited by J. J. Shea and D. E. Liberman, pp. 143–157. Oxford: Oxbow Books.
- Adler, D. S., Bar-Oz, B., Belfer-Cohen, A., and Bar-Yosef, O. 2006a 'Ahead of the game: Middle and Upper Palaeolithic hunting behaviors in the southern Caucasus', *Current Anthropology* 47: 89–118.
- Adler, D. S., Bar-Yosef, O., Belfer-Cohen, A., Tushabramishvili, N., Boaretto, E., Mercier, N., Valladas, H., and Rink, W. J. 2008 'Dating the demise: Neandertal extinction and the establishment of modern humans in the southern Caucasus', *Journal of Human Evolution* 55: 817–833.
- Adler, D. S., Belfer-Cohen, A., and Bar-Yosef, O. 2006b 'Between a rock and a hard place: Neanderthal-modern human interactions in the southern Caucasus', in *Neanderthals and Modern Humans Meet*, edited by N. J. Conard, pp. 165–188. Tübingen: Kerns Verlag.
- Adler, D. S. and Jöris, O. 2007 'Dating the Middle to Upper Palaeolithic boundary across Eurasia', *Eurasian Prehistory* 5 (2): 5–18.
- Adler, D. S. and Tushabramishvili, N. 2004 'Middle Palaeolithic patterns of settlement and subsistence in the southern Caucasus', in *Middle Palaeolithic Settlement Dynamics*, edited by N. Conard, pp. 91–132. Tübingen: Kerns Verlag.
- Adler, D. S., Wilkinson, K. N., Blockley, S. D., Mark, F., Pinhasi, R., Schmidt-Magee, B. A., Nahapetyan, S., Mallol, C., Berna, F., Glauberman, P. J., Raczyński-Henk, Y., Wales, N., Frahm, E., Jöris, O., MacLeod, A., Smith, V. C., Cullen, V. L., and Gasparian, B. 2014 'Early Levallois technology and the Lower to Middle Paleolithic transition in the Southern Caucasus', *Science* 345: 1609–1613.
- Aitken, M. J. and Stokes, S. 1997 'Climateostratigraphy', in *Chronometric Dating in Archaeology*, edited by R. E. Taylor and M. J. Aitken, p. 1–30. New York: Plenum Press.
- Afanasev, G. E. 1989 'Arkheologicheskaia razvedka na novostroikakh i prostranstvennyi analiz', *Arkheologicheskie issledovaniia na novostroikakh. Kratkie Soobshcheniia* 196: 3–12.
- Akhanov, I. I. 1961 'Drevniaia stoianka v Gelendzhike', *Sovetskaia Arkheologiya* 3: 276–280.
- Akhundov, T. 2007 'Sites de migrants venus du Proche-Orient en Transcaucasie', in *Les cultures du Caucase (VI–IIIème millénaires av. notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 95–121. CNRS Éditions: Paris.
- . 2012 *U istokov kavkazskoi tsivilizatsii. Neolit Azerbaidzhana. Shomutepe*. Baku: Natsional'naia Akademiia Nauk Azerbaizhana and Institut Arkheologii Etnografii.
- . 2014 'At the beginning of Caucasian metallurgy', *Proceedings of the International Conference on the Problems of Early Metal*

- Age Archaeology of Caucasus and Anatolia, November 19–23, 2014, Georgia*, edited by G. Narimanishvili, pp. 11–16. Tbilisi.
- Akhundov, T. and Makhmudova, B. 2008 *Iuzhnyi kavkaz v kavkazsko-peredneaziatskikh etnokul'turnykh protsessakh IV tyc. do n.e.* Baku: Sharg-Garb.
- Akhvlediani, N. I. 2005 'Problems of the chronology of Late Bronze Age and Early Iron Age sites in eastern Georgia (Kvemo Sasireti hoard)', *Ancient Civilizations from Scythia to Siberia* 11 (3–4): 257–293.
- Akkermans, P. M. M. G. 1988 'The Period V pottery', in *Hammam et-Turkman 1. Report on the University of Amsterdam 's 1981–84 Excavations in Syria*, edited by M. N. Van Loon, pp. 287–349. Istanbul: Netherlands Institute for the Near East.
- Akkermans, P. M. M. G. and Schwartz, G. 2003. *The Archaeology of Syria: From Complex Hunter-Gatherers to Early Urban Societies (ca. 16,000–300 BC)*. Cambridge: Cambridge University Press.
- Albright, W. F. 1926 'The Jordan Valley in the Bronze Age', *Annual of the American Schools of Oriental Research* 6: 13–74.
- Aldhouse-Green, M. and Aldhouse-Green, S. 2005 *The Quest for the Shaman: Shape-Shifters, Sorcerers and Spirit Healers of Ancient Europe*. Thames and Hudson: London.
- Alemany, A. 2000 *Sources on the Alans: A Critical Compilation*. Leiden: Brill.
- Aliyev, T. and Helwing, B. 2009 'Kamiltepe in der Milebene. Archäologische untersuchungen 2009', *Archäologische Mitteilungen aus Iran und Turan* 41: 23–45.
- Alizadeh, K., Eghbal, H., and Samei, S. 2015 'Approaches to social complexity in Kura-Araxes culture: A view from Köhne Shahar (Ravaz) in Chaldran, Iranian Azerbaijan', *Paléorient* 41.1: 37–54.
- Altınbilek-Algül, C., Astruc, L., Binder, D., and Pelegrin, J. 2012 'Pressure blade production with a lever in the Early and Late Neolithic of the Near East', in *The Emergence of Pressure Blade Making: From Origin to Modern Experimentation*, edited by P. M. Desrosiers, pp. 157–179. New York: Springer.
- Anati, E. (with contributions by Rustamov, D. N.) 2001 *Gobustan: Azerbaijan*. Capo di Ponte, Brescia: Edizioni del Centro.
- Anderson, W., Birkett-Rees, J., Negus Cleary, M., Krsmanovic, D., and Tskvitinidze, N. 2014 'Archaeological survey in the south Caucasus (Samtskhe-Javakheti, Georgia): Approaches, methods and first results', *Anatolia Antiqua* 22: 11–33.
- Andreeva, M. V. 1977 'K voprosu o yuzhnykh svyazakh Maikopskoi kultury', *Sovetskaia Arkheologiya* 1: 39–56.
- . 1987 'Retsenziia na knigu G. L. Kavtaradze *K khronologii epokhi eneolita i bronzy Gruzii*', *Sovetskaia Arkheologiya* 4: 273–284.
- Anthony, D. W. 1990 'Migration in archaeology: The baby and the bathwater', *American Anthropologist* 92 (4): 23–42.
- . 1997 'Prehistoric migration and social process', in *Migrations and Invasions in Archaeological Explanation* (British Archaeological Reports, Inter. Series 664), edited by J. Chapman and H. Hamerow, pp. 21–32. Oxford: British Archaeological Reports.
- . 2007 *The Horse, the Wheel and Language: How Bronze-Age Riders from the Eurasian Steppes Shaped the Modern World*. Princeton, NJ: Princeton University Press.
- Anthony, D. W. and Brown, D. R. 2003 'Eneolithic horse ritual and riding in the steppes: New evidence', in *Prehistoric Steppe Adaptation and the Horse*, edited by M. Levine, C. Renfrew, and K. Boyle, pp. 55–68. Cambridge: McDonald Institute for Archaeological Research.
- Anthony, D. W. and Ringe, D. 2015 'The Indo-European homeland from linguistic and archaeological perspectives', *Annual Review of Linguistics* 1: 199–219.
- Apakidze, A. M., Gobedzhishvili, F., Falandadze, A. N., and Lomtadze, G. A. 1958 *Mtskheta—itogi arkeologicheskikh issledovaniy*. Vol. 1. *Arkheologicheskie pamiatniki Armaziskhevi na raskopkam 1937–1946 gg.* Tbilisi: Akademii Nauk Gruzinskoi SSR.
- Apakidze, J. 2000 'Ein umfangreicher Bronzehort aus der Werkstattsiedlung der Kolchis-Kultur in Occhomuri in Westgeorgien', *Prähistorische Zeitschrift* 75: 184–211.
- . 2005 'Towards the study of Late Bronze and Early Iron Age settlement and settlement systems of the Colchian culture in western Georgia', *Archäologische Mitteilungen aus Iran und Turan* 37: 175–187.
- . 2008 'Ancient Colchian pottery from Georgia', in *Ceramics in Transitions: Chalcolithic through Iron Age in the Highlands of the Southern Caucasus and Anatolia*, edited by K. S. Robinson and A. Sagona, pp. 323–368. Leuven: Peeters.

- . 2009 *Die Spätebronze- und Früheisenzeit in West- und Zentralkaukasien: Chronologische Studien zur Kolchis-Kultur 1600–700 v. Chr.*, 2 vols (Prähistorische Archäologie in Südosteuropa, 24). Rahden: Verlag Marie Leidorf.
- Arazova, R. B. 1974 *Kamennie orudiia epokhi eneolita Azerbaidzhana – Obsidian i kamen.* Avtoreferat dissertatsii...kandidata istoricheskikh nauk. Baku.
- Areshian, G. E. 1978 'Izucheniye stratigrafii Mokhrablura', *Arkheologicheskie Otkrytiia* 1977: 503–504.
- . 1985 'Otrazhenie indoeuropeiskoi mifologii v pamiatnikakh iskysstva Vostochnoi Armenii srednego i pozdnego bronzovogo veka', in *Tezisy dokladov. IV Mezhdunarodnyi simposium po armianskomu iskysstvu*, pp. 24–26. Erevan.
- . 1986 'Raskopki v Maisyane', *Arkheologicheskie Otkrytiia* 1984: 427–428.
- . 1996 'Haykakan lernashxarhi ev harakits shrjanneri c'artarapetut'yuna vagh bronzi darum', in *Haykakan C'artarapetutyan Patmut'yun 1*, edited by G. A. Tiratsian, pp. 33–67. Erevan. (In Armenian).
- . 2005 'Early Bronze Age settlements in the Ararat Plain and its vicinity', *Archäologische Mitteilungen aus Iran und Turan* 37: 71–88.
- . 2007 'From extended families to incipient polities: The trajectory of social complexity in the Early Bronze Age of the Ararat Plain (Central Near Eastern Highlands)', in *Social Orders and Social Landscapes: Proceedings of the 2005 University of Chicago Conference on Eurasian Archaeology*, edited by L. M. Popova, C. W. Hartley, and A. T. Smith, pp. 26–54. Newcastle: Cambridge Scholars Publishing.
- Areshian, G. E., Gasparyan, B., Avetisyan, P. S., Pinhasi, R., Wilkinson, K., Smith, A., Hovsepian, R., and Zardaryan, D. 2012 'The Chalcolithic of the Near East and southeastern Europe: Discoveries and new perspectives from the cave complex Areni-1, Armenia', *Antiquity* 86: 115–130.
- Areshian, G. E. and Kafadarian, K. 1975 'Rozhdenie monymental'noi arkhitektury na territorii Armenii (per-vaia polobinia III tysiacheletia do n. e.)', in *Pamiatniki kul'tury. Novye Otkrytiia* 1974, pp. 397–403. Moscow.
- Arimura, M., Badalyan, R., Gasparyan, B., and Chataigner, C. 2010 'Current Neolithic research in Armenia', *Neo-Lithics* 1/10: 77–85.
- Arimura, M., Chataigner, C., and Gasparyan, B. 2009 'Kmlo 2: An Early Holocene site in Armenia', *Neo-Lithics* 2/09: 17–19.
- Artamonov M. I. 1948 'Tretii Razmennyi kurgan u st. Kostromskoi', *Sovetskaia Arkheologiya* 10: 161–182.
- . 1971 'Arkheologicheskaya kultura i etnos', *Problemy istorii feodal'noi Rossii*, edited by V. V. Mavrodina, pp. 16–32. Leningrad: Izdatel'stvo LGU.
- Aslanov, G. M., Vaidov, R. M., and Ione, G. I. 1959 *Drevnii Mingeaur: epokha eneolita i bronzy.* Baku: Izdatel'stvo Akademii nauk Azerbaidzhanskoi SSR.
- Ateşi, N. 2015 *Azərbaycanın Khocalı-Gədəbəy Mədəniyyətinin Materialları Avropa Muzeylərində (Son Tunc və erkən Dəmir dövrü).* Baku: Azərbaycan Milli Elmlər Akademiyası, Arkheologiya və Etnoqrafiya İnstitutu. (In Azerbaijani with Russian, German and English summaries).
- Avalishvili, G. B. 1974 *Kvemo (Nizhniaia) Kartli v pervoi polovine i tysiacheletia do n. e.* Tbilisi: Tbilisi Gos. Universitet. (In Georgian with a Russian summary).
- Avetisyan, P. and Bobokhyan, A. 2008 'The pottery traditions of the Armenian Middle to Late Bronze Age "transition" in the context of Bronze and Iron Age periodization', in *Ceramics in Transitions: Chalcolithic through Iron Age in the Highlands of the Southern Caucasus and Anatolia*, edited by K. S. Rubinson and A. Sagona, pp. 123–182. Leuven: Peeters.
- Avetisyan, P. and Bobokhyan, A. 2012 'Archaeology of Armenia in regional context: Achievements and perspectives', in *Archaeology of Armenia in Regional Context: Proceedings of the International Conference Dedicated to the 50th Anniversary of The Institute of Archaeology and Ethnography Held on September 15–17, 2009 in Yerevan*, edited by P. Avetisyan and A. Bobokhyan, pp. 7–20. Yerevan: Gitutyun.
- Avetisyan, P., Muradyan F., and Sargsyan, G. 2010 'Early Bronze Age burial mounds at Talin', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 161–165. Bonn: Dr Rudolf Habelt GmbH.
- Badalyan R., Chataigner C., and Kohl P. 2004b 'Trans-Caucasian obsidian: The

- exploitation of the sources and their distribution', in *A View from the Highlands: Archaeological Studies in Honour of C.A. Burney*, edited by A. Sagona, pp. 437–465. Leuven: Peeters Press.
- Badalyan, R., Lombard, P., Avetisyan, P., Chataigner, C., Chabot, J., Vila, E., Hovsepyan, R., Willcox, G., and Pessin, H. 2007, 'New data on the late prehistory of the southern Caucasus. The excavations at Aratshen (Armenia): Preliminary report', in *Les cultures du Caucase (VI-IIIème millénaires av. notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 37–61. Paris: CNRS Éditions.
- Badalyan, R., Lombard, P., Chataigner, C., and Avetisyan, P. 2004a 'The Neolithic and Chalcolithic phases in the Ararat Plain (Armenia): The view from Aratashen', in *A View from the Highlands: Archaeological Studies in Honour of Charles Burney*, edited by A. Sagona, pp. 399–420. Leuven: Peeters.
- . 2005 'Poselenie Aratashen (neoliticheskii pamiatnik v Araratsoi ravnine)', *Kul'tura Drevnei Armenii* 13: 34–41. Erevan: Mughni.
- Badalyan, R., Smith, A.T., Lindsay, I., Harutyunyan, A., Greene, A., Marshall, M., Monahan, B., and Hovsepyan, R., with contributions by Meliksetian, K., Pernicka, E., and Haroutunian, S. 2014 (2016) 'A preliminary report on the 2008, 2010, and 2011 investigations of Project ArAGATS on the Tsaghkahovit Plain, Republic of Armenia', *Archäologische Mitteilungen aus Iran und Turan* 45: 149–223.
- Badalyan, R., Smith, A. T., Lindsay, I., Khatchadourian, L., and Avetisyan, P. 2008 'Village, fortress, and town in Bronze and Iron Age southern Caucasia: A preliminary report on the 2003–2006 investigations of Project ArAGATS on the Tsaghkahovit Plain, Republic of Armenia', *Archäologische Mitteilungen aus Iran und Turan* 40: 45–105.
- Badalyan, R. S. 2010 'Obsidian of the south Caucasus: The use of raw materials in the Neolithic to Early Iron Age', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 27–38. Bonn: Dr Rudolf Habelt GmbH.
- Badalyan, R. S. and Avetisyan, P. 2007 *Bronze and Early Iron Archaeological Sites in Armenia: Mt Aragats and its Surrounding Region* (British Archaeological Reports, International Series 1697). Oxford: Archaeopress.
- Badalyan, R. S., Avetisyan, P., and Smith A. T. 2009 'Periodization and chronology of southern Caucasia: From the Early Bronze Age through the Iron III period', in *The Archaeology and Geography of Ancient Transcaucasian Societies, Vol. 1. The Foundations of Research and Regional Survey in the Tsaghkahovit Plain, Armenia* (Oriental Institute Publications 134), by A. T. Smith, R. S. Badalyan, and P. Avetisyan, pp. 33–93. Chicago: The Oriental Institute of the University of Chicago.
- Badalyan, R. S., Eden, C., Kohl, P. L., and Tonikijan, A. V. 1992 'Archaeological investigations at Horom in the Shirak Plain of northwestern Armenia', *Iran* 30: 31–48.
- . 2014 'New data on the periodization and chronology of the Kura-Araxes culture in Armenia', *Paléorient* 40.2: 71–92.
- Badalyan, R. S., Harutyunyan, A. A., Chataigner, C., Le Mort, F., Chabot, J., Brochier, J. E., Balasescu, A., Radu, V., and Hovsepyan, R. 2010 'The settlement of Aknashen-Khatunarkh, a Neolithic site in the Ararat Plain (Armenia): Excavation results 2004–2009', *Türkiye Bilimler Akademisi Arkeoloji Dergisi* 13: 185–218.
- Badalyan, R. S., Ovshepian, S. G., and Khachatarian, L. E. 2015 *Shengavit: Katalog arkeologicheskikh materialov iz kollektsioo Muzeia istorii Armenii*. Erevan: Muzeia istorii Armenii.
- Bader, N. O. 1984 'Pozdnii paleolit Kavkaza', in *Paleolit SSSR* (Arkeologiya SSSR), edited by P. I. Boriskovski, pp. 272–301. Moscow: Izdatel'stvo "Nauka".
- Bader, N. O. and Tsereteli, L. D. 1989 *Mezolit SSSR* (Arkeologiya SSSR). Moscow: Izdatel'stvo Nauka.
- Bahn, P. (ed.) 2010 *Prehistoric Rock Art: Polemics and Progress*. Cambridge: Cambridge University Press.
- Baiburtian, E. 1938 'Kul'tovyi ochag iz raskopok Shengavitskogo poseleniia v 1936–1937 gg.', *Vestnik Drevnei Istorii* 4.5: 255–259.
- . 2011 *Posledovatel'nost' drevneishikh kul'tur armeni na osnobanii akheologicheskogo materiala*.

- Erevan: Muzei Istorii Armenii [the manuscript was written in 1939, The Archive of the Institute of Archaeology and Ethnography, – RA, (90) 148].
- Bakhshaliyev, V. and Seyidov, A. 2013 'New findings from the settlement of Sadarak (Nakhchivan–Azerbaijan)', *Anatolia Antiqua* 21: 1–21.
- Bakhshaliyev, V. B. 1997 *The Archaeology of Nakhchivan*. Istanbul: Arkeoloji ve Sanat.
- . 2013 'Protokuro-Arakskaia keramika Nakhchivana', *Rossiiskaia Arkheologiia* no.3: 101–103.
- . 2015 'Novye materialy epokhi neolita na territorii Nakhchivana', *Rossiiskaia Arkheologiia* no.2: 135–144.
- Bakker, J. A., Kruk, J., Lanting, A. E., and Milisauskas, S. 1999 'The earliest evidence of wheeled vehicles in the Near East and Europe', *Antiquity* 73: 778–790.
- Balossi Restelli, F. 2015 'Hearth and home. Interpreting fire installations at Arslantepe, Eastern Turkey, from the fourth to the beginning of the second millennium BCE', *Paléorient* 41.1: 127–151.
- Baramidze, M. 1999 *Nekotorye problem arkheologii Zapadnogo Zakavkaz'ya v III – I tys. do n.e. Razyskaniya po istorii Abkhazii*. Tbilisi: Metsniereba.
- Barbujani, G., Whitehead, G. N., Bertorelle, G., and Nasidze, I. S. 1994 'Testing hypotheses on processes of genetic and linguistic change in the Caucasus', *Human Biology* 66: 843–864.
- Barge, O. and Chataigner, C. 2010 'GIS (Geographic Information System) for obsidian procurement analysis: pathway modelisation in space and time', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 1–14. Bonn: Dr Rudolf Habelt GmbH.
- Barnard, H., Dooley, A. N., Areshian, G., Gasparyan, B., and Faull, K. F. 2011 'Chemical evidence for wine production around 4000 BCE in the Late Chalcolithic Near Eastern highlands', *Journal of Archaeological Science* 38 (5): 977–984.
- Bar-Oz, G., Adler, D. S., Vekua, A., Meshveliani, T., Tushabramishvili, N., Belfer-Cohen, A., and Bar-Yosef, O. 2004 'Faunal exploitation patterns along the southern slopes of the Caucasus during the Late Middle and Early Upper Palaeolithic', in *Colonisation, Migration and Marginal Area: A Zooarchaeological Approach*, edited by M. Modini, S. Muñoz, and S. Wickler, pp. 46–54. Oxford: Oxbow Books.
- Bar-Oz, G., Belfer-Cohen, A., Meshveliani, T., Jakeli, N., and Bar-Yosef, O. 2008 'Taphonomy and zooarchaeology of the Upper Palaeolithic cave of Dzudzuana, Republic of Georgia', *International Journal of Osteoarchaeology* 18: 131–151.
- Bar-Oz, G., Belfer-Cohen, A., Meshveliani, T., Jakeli, N., Matskevich, Z., and Bar-Yosef, O. 2009 'Bear in mind: Bear hunting in the Mesolithic of the Southern Caucasus', *Archaeology, Ethnology and Anthropology of Eurasia* 37/1: 15–24.
- Barrett, J. 1994 *Fragments from Antiquity: An Archaeology of Social Life in Britain 2900–1200 BC*. Oxford: Blackwell.
- Barth, F. 1969 *Ethnic Groups and Boundaries: The Social Organization of Culture Difference*. Boston: Little, Brown.
- Bartosiewicz, L. 1998 'Interim report on the Bronze Age animal bones from Arslantepe (Malatya, Anatolia)', in *Archaeozoology of the Near East III*, edited by H. Buitenhuis, L. Bartosiewicz, and A. M. Choyke, pp. 221–232. Groningen: ARC Publications.
- Bar-Yosef, O., Belfer-Cohen, A., Meshveliani, T., Jakeli, N., Bar-Oz, G., Boaretto, E., Goldberg, P., Kvavadze, E., and Matskevich, Z. 2011 'Dzudzuana: An Upper Palaeolithic cave site in the Caucasus foothills (Georgia)', *Antiquity* 85: 331–349.
- Bar-Yosef, O. and Zilhão, J. (eds.) 2006 *Towards a Definition of the Aurignacian: Proceedings of the Symposium Held in Lisbon, Portugal, June 25–30, 2002* (Trabalhos de Arqueologia, 45). Lisbon: Instituto Portugues de Arqueologia.
- Baryshnikov, G. and Hoffecker, J. E. 1994 'Mousterian hunters of the NW Caucasus: Preliminary results of recent investigations', *Journal of Field Archaeology* 21: 1–14.
- Baryshnikov, G., Hoffecker, J. F., and Burgess, R. L. 1996 'Palaeontology and zooarchaeology of Mezmaiskaya Cave (northwestern Caucasus, Russia)', *Journal of Archaeological Science* 23: 313–335.
- Bastert-Lamprichs, K. 2012 'The pottery', in Lyonnet et al. 'Ancient Kura 2010–2011: The first two seasons of joint field work in the

- southern Caucasus', *Archäologische Mitteilungen aus Iran und Turan* 44: 71–82.
- Bastert-Lamprichs, K. and Scholtzhauer, U. 2011 *Der Beginn der Landwirtschaft im Südkaukasus: die Ausgrabungen in Aruchlo in Georgien*. Berlin: Deutsches Archäologisches Inst.
- Batchaev, V. M. 1984 'Pogrebal'nye pamiatniki u selenii Lechinkai i Bylym', in *Archaeologicheskoe issledovaniia na Novostroikakh Kabardino-Balkarii v 1972–1979 gg., I. Pamiatniki Epokhi Bronzy (III–II tys. do. n. e.)*, pp. 112–163. Nal'chik.
- Batiuk, S. and Rothman, M. S. 2007 'Early Transcaucasian cultures and their neighbors', *Expedition* 49(1): 7–17.
- Batiuk, S. D. 2005 *Migration Theory and the Distribution of the Early Transcaucasian Culture*. PhD dissertation, University of Toronto.
- . 2013 'The fruits of migration: Understanding the "longue duree" and the socio-economic relations of the Early Transcaucasian Culture', *Journal of Anthropological Archaeology* 32: 449–477.
- Bedianashvili, G. 2008 'Pattern burnished ornament in Georgia during the Bronze Age', in *Ceramics in Transitions: Chalcolithic Through Iron Age in the Highlands of the Southern Caucasus and Anatolia*, edited by K. S. Robinson and A. Sagona, pp. 87–100. Leuven: Peeters.
- . 2016 *The Koban Necropolis and the Late Bronze – Early Iron Age Caucasus: Ernest Chantre's Koban Collections from the French National Archaeological (Saint-Gemain-en-Laye) and Confluences (Lyon) Museums*. PhD dissertation: École Pratique des Hautes Etudes and Georgian National Museum.
- Bedianashvili, G. and Bodet, C. 2010 'Koban Necropolis, Tombs 9 and 12: The Late Bronze to the Early Iron Age of the Northern Caucasus', *Journal of Archaeology of the Turkish Academy of Sciences/Türkiye Bilimler Akademisi Arkeoloji Dergisi* 13: 277–292.
- Belfer-Cohen, A. and Goring-Morris, N. 2014 'The Upper Palaeolithic and earlier Epipalaeolithic of Western Asia', in *The Cambridge World Prehistory. Vol. 3: West and Central Asia and Europe*, edited by C. Renfrew and P. Bahn, pp. 1381–1407. Cambridge: Cambridge University Press.
- Belgiorno, M. R., Biscione, R., and Pecorella, P. E. 1984 'Il saggio e i materiali di Tappeh Gijlar', in *Tra lo Zagros e l'Urmia: Ricerche Storiche ed Archaeologiche nell'Azerbaigian Iraniano* (Incunabula Graeca 78), edited by P. E. Pecorella and M. Salvini, pp. 241–299. Rome: Edizioni dell'Ateneo.
- Beliaeva E. V. and Lioubine, V. P. 1998 'The Caucasus-Levant-Zagros: Possible relations in the Middle Palaeolithic', in *Anatolian Prehistory: At the Crossroads of Two Worlds I* (Eraul 85), edited by M. Otte, pp. 39–55. Liège: Université de Liège, Service de Préhistoire.
- Bell, J. S. 1840 *Journal of a Residence in Circassia during the Years 1837, 1838, and 1839*. London: E. Moxon.
- Beni, A. N., Lahijani, H., Harami, R. M., Arpe, K., Leroy, S. A. G., Marriner, N., Berberian, M., Andrieu-Ponel, V., Djamali, M., Mahboubi, A., and Reimer, P. J. 2013 'Caspian sea-level changes during the last millennium: Historical and geological evidence from the south Caspian Sea', *Climate of the Past* 9: 1645–1665. doi:10.5194/cp-9-1645-2013.
- Berger, W. H. 1990 'The Younger Dryas cold spell – A quest for causes', *Global and Planetary Change* 3 (3): 219–237.
- Berlin, B. and Kay, P. 1969 *Basic Color Terms: Their Universality and Evolution*. Berkeley: University of California Press.
- Berthon, R. 2014 'Past, current, and future contribution of zooarchaeology to the knowledge of the Neolithic and Chalcolithic cultures in South Caucasus', *Studies in Caucasian Archaeology* 2: 4–30.
- Bertorelle, G., Bertranpetit, J., Calafell, E., Nasidze, I. S., and Barbujani, G. 1995 'Do Basque-speaking and Caucasian-speaking populations share non-Indo-European ancestors?' *European Journal of Human Genetics* 3: 256–263.
- Bertram, G. İ. and Bertram, J.-K. 2013 'Udabno – Eine erste Zusammenfassung der Ausgrabungs- und Prospektionsergebnisse nach Abschluss der Feldarbeiten', in *Austausch und Kulturkontakt im Südkaukasus und seinen angrenzenden Regionen in der Spätbronze-Frühisenzeit*, edited by Mehnert, A., Mehnert, G., and Reinhold, S., pp. 87–121. Langenweissbach: Beier & Beran.
- Bertram, J.-K. 2003 *Grab- und Bestattungssitten des späten 3. und des 2. Jahrtausends v. Chr. im Kaukasusgebiet*. Langenweissbach: Beier & Beran.
- . 2008 'Udabno (eastern Georgia) – Three radiocarbon-dated settlements ca. 1000 BCE: A report on the ceramic analysis', in *Ceramics in Transitions: Chalcolithic through Iron Age in the Highlands of the Southern Caucasus*

- and *Anatolia*, edited by K. S. Robinson and A. Sagona, pp. 235–266. Leuven: Peeters.
- . 2010 ‘Zum Martqopi-Bedeni-Horizont im Südkaukasusgebiet’, in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 253–261. Bonn: Dr Rudolf Habelt GmbH.
- Binford, L. R. 1972 ‘Mortuary practices: Their study and their potential’, in *An Archaeological Perspective* (Studies in Archaeology), edited by L. Binford, pp. 208–243. New York: Seminar Press.
- Biscione, R. 2009 ‘The distribution of the pre- and protohistoric hillforts in Iran’, *Studi Micenei ed Egeo-Anatolici* 51: 123–143.
- Blackman, J., Badalyan, R., Kikodze, Z., and Kohl, P. 1998 ‘Chemical characterization of Caucasian geological obsidian sources’, in *L’obsidienne au Proche et Moyen Orient: du volcan à l’outil*, edited by M.-C. Cauvin, A. Gourgaud, B. Gratuze, N. Arnaud, G. Poupeau, J. -L. Poidevin, and C. Chataigner, (British Archaeological Reports, International Series 738), pp. 205–231. Oxford and Lyon: Archaeopress & Maison de Orient Méditerranéen.
- Blinkenberg, C. 1926 *Lindiaka V: Fibules grecques et orientales* (Det Kgl. Danske videnskabernes selskab. Historisk-filologiske meddelelser 13, 1). Copenhagen: Andr. Fred. Høst & Søn.
- Boak, A. E. R. 1921 ‘Rudolf Virchow – Anthropologist and archeologist’, *The Scientific Monthly* 13(1): 40–45.
- Bobokhyan, A., Gilibert, A., and Hnila, P. 2012 ‘Vishaps of the Geghama Mountains: New discoveries and propedeutics to a history of research’, *Aramazd: Armenian Journal of Near Eastern Studies* 2: 7–27.
- Bochkarev, V. C. and Rezapkin, A. D. 1980 ‘Raboty Kubanskoi ekspeditsii’, *Arkheologicheskie otkrytiia* 1979: 97–98.
- Bochkarev, V. C., Sharafutdinova, E. S., Rezapkin, A. D., Trifonov, B. A., and Bestuzhev, G. N. 1983 ‘Novye ekspedits. issled. arkheologov Leningrada’, in *Raboty Kubanskoi Ekspeditsii 1979–1980 gg. Drevnie Kul’tury Evraziiskikh Stepei*, pp. 11–13. Leningrad.
- Boëda, E. 1995 ‘Levallois: A volumetric construction, methods, a technique’, in *The Definition and Interpretation of Levallois Technology*, edited by H. L. Dibble and O. Bar-Yosef, pp. 41–69. Madison, WI: Prehistory Press.
- Boehmer, R. M. and Kossack, G. 2000 ‘Der figürlich verzierte Becher von Karašamb: Umfeld, Interpretation und Zeitellung’, in *Variatio Delectat: Iran und der Westen Gedenkschrift für Peter Calmeyer* (Alter Orient und Altes Testament, Bd. 272), edited by R. Dittmann, B. Hrouda, U. Löw, P. Matthiae, R. Mayer-Opificius, and S. Thürlwächter, pp. 9–71. Munster: Ugarit-Verlag.
- Bökönyi, S. 1983 ‘Late Chalcolithic and Early Bronze I animal remains from Arslantepe (Malatya), Turkey: A preliminary report’, in *Perspectives on Protourbanization in Eastern Anatolia: Arslantepe (Malatya). An Interim Report on 1975–1983 Campaigns*, edited by M. Frangipane and A. Palmieri, pp. 581–597. Special issue of *Origini* 12 (2).
- Bolger, D., Greenberg, R., Kroll, S., and Palumbi, G. 2014 ‘Red-Black Burnished Pottery of Western Asia and Cyprus’, in *Associated Regional Chronologies for the Ancient Near East and the Eastern Mediterranean: Interregional, Vol. I. Ceramics*, edited by M. Lebeau, pp. 149–169. Brepols: Turnhout.
- Bondár, M., 2012 *Prehistoric Wagon Models in the Carpathian Basin (3500–1500 BC)* (Series Minor 32). Archaeolingua: Budapest.
- Bradley, R. 1998 *The Passage of Arms: An Archaeological Analysis of Prehistoric Hoards and Votive Deposits*. 2nd ed. Oxford: Oxbow Books.
- . 2013 ‘Hoards and the deposition of metalwork’, in *The Oxford Handbook of the European Bronze Age*, edited by H. Fokkens and A. F. Harding, pp. 121–139. Oxford: Oxford University Press.
- Braidwood, R. J. 1937 *Mounds in the Plain of Antioch: An Archaeological Survey* (Oriental Institute Publications vol. 48). Chicago: University of Chicago.
- Braidwood, R. J. and Braidwood, L. S. 1960 *Excavations in the Plain of Antioch I. The Earlier Assemblages Phases A–J* (Oriental Institute Publications vol. LXI). Chicago: University of Chicago.
- Braund, D. 1994 *Georgia in Antiquity: A History of Colchis and Transcaucasian Iberia 550 BC–AD 562*. Oxford: Clarendon Press.
- Brennan, M. L., Ballard, R. D., Bell, K. L. C., and Piechota, D. 2011 ‘Archaeological oceanography and environmental characterization of

- shipwrecks in the Black Sea', in *Geology and Geoarchaeology of the Black Sea Region: Beyond the Flood Hypothesis* (Special Paper 473, The Geological Society of America), edited by I.V. Buynevich, V. Yanko-Hombach, A. S. Gilbert, and R. E. Martin, pp. 179–188. Boulder, CO: The Geological Society of America.
- Brileva, O. A. 2011 'Gamdlitskaroiskii klad i problemy ego interpretatsii', in *Boprosy drevnei i srednevekovoi arkhologii Kavkaza*, edited by E. Kh. Albegova, M. Kh. Bagaev, and Kh. M. Mamaev, pp. 111–118. Moscow: Institut Arkheologii RAN.
- Bronk-Ramsey, C. 2008 'Radiocarbon dating: Revolutions in understanding', *Archaeometry* 50: 249–275.
- . 2010 *OxCal Program V4.1.7*. Oxford: Radiocarbon Accelerator Unit, University of Oxford.
- . 2013 *OxCal Program V4.2.2*. Oxford: Radiocarbon Accelerator Unit, University of Oxford.
- Brück, J. 1999 'Ritual and rationality: Some problems of interpretation in European pre-history', *European Journal of Archaeology* 2.3: 313–344.
- Brück, J. and Fokkens, H. 2013 'Bronze Age settlements', in *The Oxford Handbook of the European Bronze Age*, edited by H. Fokkens and A. Harding, pp. 82–101. Oxford: Oxford University Press.
- Bruck, S. I. and Apenchenko, V. S. (eds.) 1964 *Atlas Narodov Mira*. Moscow: Glavnoe upravlenie geodezii i kartografi Gosudarstvennogo Geologicheskogo Komiteta SSSR & Institut Etnografiim im. N. N. Miklukho-Maklaia Akademii Nauk SSSR.
- Bulkin, V. A., Klejn, L. S., and Lebedev, G. S. 1982 'Attainments and problems of Soviet archaeology', *World Archaeology* 13: 272–295.
- Burmeister, S. (ed.) 2004 *Rad und Wagen. Der Ursprung einer Innovation. Wagen im Vorderen Orient und Europa*. Mainz am Rhein: Philip von Zabern.
- . 2010 'Transport im 3. Jahrtausend v. Chr. Waren die Wagen ein geeignetes Transportmittel im Überlandverkehr?', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 223–235. Bonn: Dr Rudolf Habelt GmbH.
- Burney, C. A. 1958 'Eastern Anatolia in the Chalcolithic and Early Bronze Age', *Anatolian Studies* 8: 157–209.
- . 1970 'Excavations at Haftavan Tepe 1968: First preliminary report', *Iran* 8: 157–171.
- . 1972 'Excavations at Haftavan Tepe 1969: Second preliminary report', *Iran* 10: 127–142.
- . 1973 'Excavations at Haftavan Tepe 1971: Third preliminary report', *Iran* 11: 153–172.
- . 1975 'Excavations at Haftavan Tepe 1973: Fourth preliminary report', *Iran* 13: 149–164.
- . 1979 'Meshkinshahr survey', *Iran* 17: 155–156.
- . 1996 'The highland sheep are sweeter', in *Cultural Interaction in the Ancient Near East*, edited by G. Bunnens, pp. 1–15 (Abr Nahrain Supplement Series 5). Peeters: Leuven.
- . 1997 'Hurrians and Indo-Europeans in their historical and archaeological setting', *Al-Rafidan* 18: 175–193.
- Burney, C. A. and Lang, D. M. 1971 *The Peoples of the Hills: Ancient Ararat and Caucasus*. London: Weidenfeld and Nicolson.
- Burton-Brown, T. 1951 *Excavations in Azerbaijan, 1948*. London: John Murray.
- Buynevich, I. V., Yanko-Hombach, V., Gilbert, A. S., and Martin, R. E. (eds.) 2011 *Geology and Geoarchaeology of the Black Sea Region: Beyond the Flood Hypothesis* (Special Paper 473, The Geological Society of America). Boulder, CO: The Geological Society of America.
- Camps, M. and Chauhan, P. R. (eds.) 2009 *Sourcebook of Paleolithic Transitions: Methods, Theories and Interpretations*. New York: Springer.
- Carminati, E. 2014 'Jewellery manufacture in the Kura-Araxes and Bedeni cultures of the southern Caucasus: Analogies and distinctions for the reconstruction of a cultural changeover', in *Beyond Ornamentation: Jewelry as an Aspect of Material Culture in the Ancient Near East* (Polish Archaeology in the Mediterranean 23/2, Special Studies), edited by A. Golani and Z. Wygnańska, pp. 161–186. Warsaw: Polish Centre of Mediterranean Archaeology, University of Warsaw.
- Casanova, M. 2000 'Le lapis-lazuli dans de l'Asie central à la Syrie au Chalcolithique et à l'âge du Bronze: traits communs et particularités régionales', in *Proceedings of the First International Congress on the Archaeology of the Ancient Near East. Rome, May 18th–23rd 1998*, vol. 1, edited by P. Matthiae, A. Enea, L. Peyronel, and F.

- Pinnock, pp. 171–183. Rome: Dipartimento di Scienze Storiche, Archaeologiche e Anthropologiche dell'Antichità.
- Castelluccia, M. 2013 'Observations on four bronze belts from the Alaverdi area, Armenia', *Iran and the Caucasus* 17: 359–369.
- . 2016 'The Talesh region in the Iron Age and its relations with Transcaucasia', in *At the Northern Frontier of the Near East: Recent Research on Caucasia and Anatolia in the Bronze Age (Proceedings of the Humboldt-Kolleg Venice 09-12/01/2013)*, Subartu 38, edited by E. Rova and M. Tonussi, pp. 391–409. Brepols: Turnhout.
- . 2017 *Transcaucasian Bronze Belts* (BAR Inter. Series 2842). Oxford: BAR Publishing.
- Castro Gessner, G. 2011 'A brief overview of the Halaf tradition', in *The ancient of anatolia Oxford Handbook*, edited by S. Steadman and G. MacMahon, pp. 777–795. Oxford: Oxford University Press.
- Catford, J. C. 1977 'Mountain of tongues: The languages of the Caucasus', *Annual Review of Anthropology* 6: 283–314.
- Cauvin, J. 2000 *The Birth of the Gods and the Origins of Agriculture*. Cambridge: Cambridge University Press. Transl. T. Watkins.
- Ceylan, A. 2008 *Doğu Anadolu Araştırmaları: Erzurum-Erzincan-Kars-Iğdır (1998–2008)*. Erzurum: Günes Vakfı Yayınları.
- Chadwick, N. K. 1942 *Poetry & Prophecy*. Cambridge: Cambridge University Press.
- Chantre, E. 1881 'La nécropole de Koban en Osséthie (Caucase)', *Matériaux pour l'histoire primitive et naturelle de l'homme* Serie 2, Vol. 13: 241–264.
- . 1883 'La nécropole de Koban (Caucase)', *Bulletin de la Société d'anthropologie de Lyon*: 92–106.
- . 1885 *Recherches anthropologiques dans le Caucase*, Vol. 1, *Période préhistorique*. Paris: C. Reinwald; Lyon: H. Georg.
- . 1886 *Recherches anthropologiques dans le Caucase*, Vol. 2, *Période protohistorique*. Paris: C. Reinwald; Lyon: H. Georg.
- Chapman, J. 2000a *Fragmentation in Archaeology: People, Places and Broken Objects in the Prehistory of South Eastern Europe*. London: Routledge.
- . 2000b 'Pit-digging and structured deposition in the Neolithic and Copper Age', *Proceedings of the Prehistoric Society* 66: 61–87.
- Chataigner, C., 1995 *La Transcaucasie au néolithique et au chalcolithique* (British Archaeological Reports, International Series 624). Oxford: Tempus Reparatum.
- Chataigner, C., Avetisyan, P., Palumbi, G., and Uerpmann, H.-P. 2010 'Godedzor: A late Ubaid-related settlement in the southern Caucasus', in *Beyond the Ubaid. Transformation and Integration in the Late Prehistoric Societies of the Middle East* (Studies in Ancient Oriental Civilizations, 63), edited by R. A. Carter and G. Philip, pp. 377–394. Chicago: Oriental Institute of the University of Chicago.
- Chataigner, C., Badalyan, R., and Arimura, M. 2014 'The Neolithic of the Caucasus', *Oxford Handbooks Online*. DOI:10.1093/oxfordhdb/9780199935413.013.13
- Cheishvili, A. 2013 'Le baron Joseph de Baye, un archéologue Français dans le Caucase', *Le Canard du Caucase* 11: 13–15.
- Chelidze, L. and Gogelia, D. 2004 'Arukhlo I: An early-farming site', *Journal of Georgian Archaeology* 1: 46–92.
- Chelidze, L. M. 1990 'Gudaletskaia stianka kamennogo perioda', in *Paleolit Kavkaza i soprodelnykh territoriy* edited by D. Tushabramishvili, pp. 91–94. Tbilisi: Metsniereba.
- Chernykh, E. N. 1966 *Istoriia drevneishei metallurgii Vostochnoi Evropy* (Materialy i issledovannia po arkheologii SSSR 132). Moscow: Nauka.
- . 1976 *Drevniaia metallo-obrabotka na Ugol-zapade SSSR*. Moscow: Nauka.
- . 1992 *Ancient Metallurgy in the USSR: The Early Metal Age*. Cambridge: Cambridge University Press.
- . 2011 'Eurasian steppe belt: Radio-carbon chronology and metallurgical provinces', in *Anatolian Metals V* (Der Anschnitt 24/Veröffentlichungen aus dem Deutschem Bergbau-Museum 180), edited by Ü. Yalcın, pp. 151–171. Bochum: Deutsches Bergbau-Museum.
- Chernykh, E. N., Avilova, L. I., and Orlovskaja, A. 2002 'Metallurgy of the Circumpontic area: From the unity to disintegration', in *Anatolian Metals II* (Veröffentlichungen aus dem Deutschem Bergbau-Museum, Der Anschnitt/Beiheft 15), edited by Ü. Yalcın, pp. 83–100. Bochum: Deutsches Bergbau-Museum.
- Cherry, J. F., Faro, E., and Minc, L. 2010 'Field survey and geochemical characterization of the southern Armenian obsidian sources', *Journal of Field Archaeology* 35: 147–163.

- Chidasheli, M. 1982. *Graficheskoe iskusstvo Central'nogo Zakavkaz'ia v epokhu rannego zheleza*. Tbilisi: Metsniereba.
- Chikovani, G. 1999 *Shida Kartli dzv. Ts. V–IV atatsileulebshi (arkeologiuri masalebis mikhedvit)*. Doctoral thesis. Tbilisi. (In Georgian).
- Chikovani, G., Shatberashvili, Z., and Gogochuri, G. 2010 'A new site of the Eneolithic–Early Bronze Age from Tetrtsqaro', in *Rescue Archaeology in Georgia: The Baku–Tbilisi–Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 95–109. Tbilisi: Georgian National Museum.
- Chilashvili, L. A. 1964 *Gorodishche Urnisi: istoriko-arkheologicheskoe issledovanie*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- Childe, V. G. 1944 'Archaeological ages as technological stages', *Journal of the Royal Anthropological Society* 74: 7–24.
- . 1951 'The first wagons and carts – from the Tigris to the Severn', *Proceedings of the Prehistoric Society* 17: 177–194.
- . 1954a 'The diffusion of wheeled vehicles', *Ethnographisch-Archäologische Forschungen* 2: 1–17.
- . 1954b 'Rotary motion', in *A History of Technology*, vol. 1, edited by C. Singer, E. J. Holmyard, and A. R. Hall, pp. 187–215. Oxford: Clarendon Press.
- Chubinishvili, T. N. 1963 *Amiranis-Gora: materialy k drevneishei istorii Meskhet-Dzhavakheti*. Tbilisi: Sabchota Sakartvelo. (In Georgian with Russian summary).
- . 1971 *K Drevnei istorii Iuzhnogo Kavkaza*. Vol. 1. *Drevniia kul'tura Iuzhnoi Gruzii (V–III tysiacheletii do n. e.) i probelma stanovleniia kuro-araksskoi kul'tury na Iuzhnom kavkaze*. Tbilisi: Metsniereba.
- Chubinishvili, T. N. and Kushnareva, K. K. 1967 'Novye materialy po eneolitu Iuzhnogo Kavkaza V–IV tysiacheletii do N. E.', *Vestnik Obshchestvennykh Nauk Akademii Nauk Gruzinskogo SSR* 6: 336–362.
- Clackson, J. P. T. 2004 'Classical Armenian', in *The Cambridge Encyclopedia of the World's Ancient Languages*, edited by R. D. Woodard, pp. 922–942. Cambridge: Cambridge University Press.
- Clarke, D. L. 1968 *Analytical Archaeology*. London: Methuen.
- Clarke, G. 1969 *World Prehistory: A New Outline* (2nd ed). Cambridge: Cambridge University Press.
- Cline, E. 2014 *1177 BC: The Year Civilization Collapsed*. Princeton, NJ: Princeton University Press.
- Comrie, B. 2007 'Northern Asia and eastern Europe', in R. E. Asher and C. Moseley (eds.) *Atlas of the World's Languages* (2nd ed), pp. 219–244. London: Routledge.
- Connor, S. and Kvavadze, E. 2014 'Environmental context of the Kura–Araxes culture', *Paléorient* 40(2): 11–22.
- Connor, S. and Sagona, A., 2007, 'Environment and society in the late prehistory of southern Georgia, Caucasus', in *Les cultures du Caucase (VI–IIIème millénaires av. notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 21–36. CNRS Éditions: Paris.
- Connor, S. E. 2011 *A Promethean Legacy: Late Quaternary Vegetation History of the Southern Georgia, The Caucasus* (Ancient Near Eastern Studies, Supplement 34). Leuven: Peeters.
- Courcier, A. 2007 'La métallurgie dans les pays du Caucase au Chalcolithique et au début de l'âge du Bronze: bilan des études et perspectives nouvelles', in *Les cultures du Caucase (VI–IIIème millénaires av. notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 198–231. CNRS Éditions: Paris.
- . 2010 'Metalliferous potential, metallogenous particularities and extractive metallurgy: Interdisciplinary research on understanding the ancient metallurgy in the Caucasus during the Early Bronze Age', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 75–93. Bonn: Dr Rudolf Habelt GmbH.
- . 2012 'The metallurgical evidence at Mentesh Tepe: Preliminary results of archaeological analyses', in 'Ancient Kura 2010–2011: the first two seasons of joint field work in the southern Caucasus', edited by B. Lyonnet et al., *Archäologische Mitteilungen aus Iran und Turan* 44: 109–119.
- . 2014 'Ancient metallurgy in the Caucasus from the sixth to the third millennium BCE', in *Archaeometallurgy in Global Perspective*, edited by B. W. Roberts and C. P. Thornton, pp. 579–664. New York: Springer.

- Crabtree, P. 2011 'Animal remains at Godin Period IV', in *On the High Road: The History of Godin Tepe, Iran*, edited by H. Gopnik and M. S. Rothman, p. 178. Costa Mesa, CA: Mazda Publishers in association with the Royal Ontario Museum. See also the Godin Web archive at <https://tspace.library.utoronto.ca>.
- Craddock, P. T. 1995 *Early Metal Mining and Production*. Edinburgh: Edinburgh University Press.
- Cribb, R. 1991 *Nomads in Archaeology*. Cambridge: Cambridge University Press.
- Culican, W. and Zimmer, J. 1987 'Decorated belts from Iran and the Caucasus', *Iranica Antiqua* 22: 159–199.
- Cunliffe, B. 2008 *Europe between the Oceans 9000 BC–AD 1000*. London: Thames and Hudson.
- D'Anna, M. B. 2012 'The pottery of Kamiltepe (MPS 1)', in 'Ancient Kura 2010–2011: The first two seasons of joint field work in the southern Caucasus', edited by B. Lyonnet et al., *Archäologische Mitteilungen aus Iran und Turan* 44: 38–44.
- D'Anna, M. B. and Guarino, P. 2010 'Continuity and change in the elite food management during the 4th millennium BC. Arslantepe periods VI and VIA: A comparison', in *Economic Centralisation in Formative States. The Archaeological Reconstruction of the Economic System in 4th Millennium Arslantepe*, edited by M. Frangipane, pp. 193–204. Rome: Sapienza Università di Roma.
- Day, J. 1989 *Molech: A God of Human Sacrifice in the Old Testament*. Cambridge: Cambridge University Press.
- De Miroschedji, P. 2000 'La céramique de Khirbet kerak en Syro-Palestine: état de la question', in *Chronologies des pays du Caucase et de l'Euphrate aux IV^e–III^e millénaires: Actes du colloque international (d'Istanbul, 16–19 décembre 1998)*, edited by C. Marro and H. Hauptmann, pp. 255–278. Acta Anatolica 11. Paris: de Boccard; Istanbul: Institut Français d'Études Anatoliennes.
- De Morgan, J. J. M. 1896 *Mission scientifique en Perse*, Vol. IV: 1. *Recherches archéologiques*. Paris: Ernest Leroux.
- . 1897 *Mission scientifique en Perse*, Vol. IV: 2. *Recherches archéologiques*. Paris: Ernest Leroux.
- . 1889 *Mission scientifique au Caucase. Études archéologiques & historiques*. Paris: Ernest Leroux.
- Decaix, A. and Tengberg, M. 2015 'Bronze Age environment and plant exploitation around the Caspian Sea', paper delivered at the conference *Caspian Sea Shores*, 4–5 December 2015 (Nanterre & Saint-Germain-en-Laye).
- Dedabrishvili, Sh. Sh. 1969 'Pamiatniki epokhi rannei i srednei bronzy', *Trudy Kakhetskoi Arkheologicheskoi Ekspeditsii I (1965–1966 gg)* 1: 35–75. (In Georgian).
- . 1979 *Kurgany Alazanskoi doliny* (Trudy Kakhetskoi Arkheologicheskoi Ekspeditsii II). Tbilisi: Metsniereba.
- Denton, 1982 *The Hunger for Salt: An Anthropological, Physiological, and Medical Analysis*. Berlin, New York: Springer.
- Derzhavin V. L. and Tikhonov B. G. 1980 'Novye pogrebeniia maikopskoi kul'tury v Tsentralnom Predkavkaz'e', *Kratkie Soobshcheniia Instituta Arkheologii* 161: 76–79.
- Devedjian, S. 2006 *Lori Berd II (Bronze Moyen)*. Erevan: Guitoutiun. (In Armenian and French).
- Devedzhian, S. G. 1981 *Lori Berd I: Rezul'taty raskopki 1969–1973 gg*. Erevan: Izdatel'stvo AN Armianskoi SSR.
- Diakonoff, I. M. and Kashkai, S. M. 1981 *Geographical Names According to Urartian Texts* (Répertoire Géographique des Textes Cunéiformes, 9). Weisbaden: Dr. Ludwig Reichert Verlag.
- Dietz, U. L. 1998 *Spätbronze- und früheisenzeitliche Tensen im Nordschwarzmeergebiet und im Nordkaukasus* (Prähistorische Bronzefunde 16, 5). Stuttgart: F. Steiner.
- Djafarzade, I. M. 1973 *Gobustan: Naskal'nie izobrazheniia*. Baku: Elm.
- Djindjian, F., Lorre, C., and Touret, L. 2015 *Caucase, Égypte et Perse: Jacques de Morgan (1857–1924). Pionnier de l'aventure archéologique*. Paris, Saint Germain en-Laye: Musée d'Archéologie Nationale.
- Dobres, M.-A. and Robb, J. (eds.) 2000 *Agency in Archaeology*. London: Routledge.
- Dorn, R. I. 2001 'Chronometric techniques: Engravings', in *Handbook of Rock Art Research*, edited by D. S. Whitley, pp. 167–189. Walnut Creek, CA: AltaMira Press.
- Doronichev, V. B. 2000 'Lower Paleolithic occupation of the Northern Caucasus', in *Early Humans at the Gates of Europe, Proceedings of the First International Symposium, Dmanisi, Tbilisi (Georgia), September 1998* (ERAUL 92), edited by D. Lordkipanidze, O. Bar-Yosef, and M. Otte, pp. 67–77. Liège: Université de Liège.

- . 2008 'The Lower Palaeolithic in Eastern Europe and the Caucasus: A reappraisal of the data and new approaches', *PaleoAnthropology*: 107–157.
- Doronichev, V. B. and Golovanova, L. V. 2003 'Bifacial tools in the Lower and Middle Paleolithic of the Caucasus and their contexts', in *Multiple Approaches to the Study of Bifacial Technologies*, edited by H. Dibble and M. Soressi, pp. 77–107. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia.
- Drews, R. 1995 *The End of the Bronze Age: Changes in Warfare and the Catastrophe ca. 1200 BC*. Princeton, NJ: Princeton University Press.
- Dshawachishwili, A. 1998 'Die Ausgrabungen von Berikdeebi in Georgien', *Georgica* 21: 7–21.
- Düring, B. S. 2011 *The Prehistory of Asia Minor: From Complex Hunter-Gatherers to Early Urban Societies*. Cambridge: Cambridge University Press.
- Duru, R. 1979 *Keban Projesi Değirmentepe Kazısı 1973* (Middle Eastern Technical University Keban Project Publications, Series III, No. 2). Ankara: Türk Tarih Kurumu Basımevi. (In Turkish and English).
- Dyson, R. H. 1965 'Problems in the relative chronology of Iran, 6000–2000 B. C.', in *Chronologies in Old World Archaeology*, edited by R. W. Ehrich, pp. 215–256. Chicago: The University of Chicago Press.
- Dzhaparidze, O. M. 1950 'Kolkhuri culi', *Sakartvelos sakhelmitsipho muzeumis Moambe/Bulletin of Georgian State Museum B–XVI*: 35–91.
- . 1955 *Rannii etap drevnei metallurgii v Gruzii*. Tbilisi: Teknika da shroma.
- . 1960 *Arkheologicheskie raskopki v Trialeti v 1957–1958 gg*. Tbilisi: Metsniereba.
- . 1961 *K istorii Gruzinskikh plemen na rannei stadii medno-bronzovoi kul'tury*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- . 1964 'Arkheologicheskie raskopki v Trialeti v 1959–1962 gg', *Sovetskaia Arkheologiya* 2: 102–121.
- . 1969 *Arkheologicheskie Raskopki v Trialeti*. Tbilisi: Metsniereba. (In Georgian with Russian and English summaries).
- . 1975 'Kurgany epokhi bronzы', in *Otchet Kvemo-Kartliiskoi arkheologicheskoi ekspeditsii (1965–1971 gg)*, pp. 137–165. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- . 1976 *K etnicheskoi istorii gruzinskikh plemen: Po dannym arkheologii*. Tbilisi: Izd-vo Tbilisskogo universiteta. (In Georgian with Russian summary).
- . 1983 'Materialnaia kultura Vostochnoi Gruzii v epokhu rannykh kurganov', *Materialy 4-go Mezhdunarodnyi simposium po gruzinskomu iskusstvu*, pp. 1–11. Tbilisi: Metsniereba.
- . 1989 *Na zare etnokul'turnaia istorii Kavkaza*. Tbilisi: Izd-vo Tbilisskogo universiteta.
- . 1992 'Sachkhere', in *Sakartvelos arqelogia, II. Eneolit-adrebrinjaos khana*, edited by O. Dzhaparidze, pp. 268–270. Tbilisi: Metsniereba. (In Georgian).
- . 1993 'Über die Ethnokulturelle situation in Georgian gegen ende des 3. Jahrtausends v. Chr.', in *Between the Rivers and Over the Mountains: Archaeologica Anatolica et Mesopotamica Alba Palmieri Dedicata*, edited by M. Frangipane, H. Hauptmann, M. Liverani, P. Matthiae, and M. Mellink, pp. 474–491. Rome: Dipartimento di Scienze Storiche Archeologiche e Antropologiche dell'Antichità, Università di Roma.
- . 1994 'Trialetskia kultura', in *Epokha Bronzy Kavkaza i Srednei Azii. Rannaia i Sredniaia Bronza Kavkaza*, edited by K. Kh. Kushnareva and V. I. Markovin, pp. 75–92. Moscow: Nauka.
- . 1998 *Kartveli tomebis etnokulturuli istoriatsvis dzv. ts. III atatsleulshi (Adrekorghani kultura)*. Tbilisi: Tbilisi University Press. (In Georgian with German summary).
- Dzhaparidze, O. M., Avalishvili, G. B., and Tsereteli, A. T. 1984 *Pamiatniki Mes'kheti epokhi srednei bronzы (Katalog arkheologicheskogo materiala)*. Tbilisi: Metsniereba.
- Dzhaparidze, O. M. and Dzhavakhishvili, A. I. 1971 *Kultura drevneishego Zemledel'cheskogo naseleniia na territorii Gruzii*. Tbilisi: Izdatelstvo Sabchota Sakartvego. (In Georgian with Russian summary).
- Dzhaparidze, O. M., Kikvidze, Ia. A., Avalishvili, G. B., and Tsereteli, A. T. 1980 'Otchet Kaketskoi (Martkopskoi) arkheologicheskoi ekspeditsii za 1978–1979 gg', *Arkheologicheskie Ekspeditsii Gos. muzeia Gruzii AN GSSR* 7: 35–42. (In Georgian with Russian summary).
- Dzhavakhishvili, A. I. 1973 *Stroitelnoe delo i arkhitektura poselenii Iuzhnogo Kavkaza V–III tysiacheletii do n. e*. Tbilisi: Metsniereba.

- Dzhavakhishvili, A. I. and Glonti, L. I. 1962 *Urbni I. Arkheologicheskie raskopki, provedennye v 1954–1961 gg na selishche Kvatskhelebi (Tulepia-kokhi)*. Tbilisi: Izdatelstvo Akademii Nauk Gruzinskoi SSR. (In Georgian with Russian summary).
- Dzhavakhishvili, G. I. 1971 *K istorii rannezemelcheskoi kultury Zapadnogo Zakavkaza (po arkheol. dannym)*. Aftoref. dis. kand. ist. nauk. Tbilisi.
- Dzhibladze, L. 2007 *Poseleniya Kolkhidskoi nizmennosti III–II tys. do n.e.* Metsniereba: Tbilisi.
- Edens, C. 1995 'Transcaucasia at the end of the Early Bronze Age', *Bulletin of the American Schools of Oriental Research* 299/300: 53–64.
- Edwards, M. 1981 'The pottery of Haftavan Tepe VI B (Urmia ware)', *Iran* 19: 101–140.
- . 1983 *Excavations in Azerbaijan (North-Western Iran)* (British Archaeological Reports, International Series 182). Oxford: British Archaeological Reports.
- Eliade, M. 1978 *The Forge and the Crucible*, 2nd ed. Chicago: University of Chicago Press.
- . 1987 'Metals and metallurgy', in *Encyclopedia of Religion*, edited by M. Eliade, pp. 481–484. New York: Macmillan.
- . 2004 *Shamanism: Archaic Techniques of Ecstasy*. Princeton, NJ: Princeton University Press.
- Erb-Satullo, N. L., Gilmour, B. J. J., and Khakhutaishvili, N. 2014 'Late Bronze and Early Iron Age copper smelting technologies in the South Caucasus: The view from ancient Colchis c. 1500–600 BC', *Journal of Archaeological Science* 49: 147–159.
- . 2015 'Crucible technologies in the Late Bronze–Early Iron Age south Caucasus: Copper processing, tin bronze production and the possibility of local tin ores', *Journal of Archaeological Science* 61: 260–276.
- Fahimi, H. 2005 'Kura-Araxes type pottery from Gilan and the eastern extension of the Early Trans-Caucasian culture', *Archäologische Mitteilungen aus Iran und Turan* 37: 125–132.
- Farajova, M. N. 2009 *Rock Art of Azerbaijan*. Baku: Azerbaijan Rock Art Centre.
- . 2012 'Pleistocene art in Azerbaijan', in *L'art pléistocène dans le monde. Actes du Congrès IFRAO, Tarascon-sur-Ariège, septembre 2010 – Symposium 'Art pléistocène en Asie (N° spécial de Préhistoire, Art et Sociétés, Bulletin de la Société Préhistorique Ariège-Pyrénées, LXV–LXVI, 2010–2011)*, edited by J. Clottes, pp. 160–161 (book), 929–942 (CD). Tarascon-sur-Ariège: Societe Prehistorique Ariège-Pyrenees.
- Farmakovskii, B. V. 1914 'Arkhaicheskii period v Rossii', *Materialy po arkheologii Rossii* 34: 50–76.
- Fassbinder, J.W.E., Belinskiy, A., Linck, R., and Reinhold, S. 2013 'Prehistoric ring monuments in the northern Caucasus (Russia): Remote sensing, large-scale magnetic prospecting and first test excavations', in *Archaeological Prospection. Proceedings of the 10th International Conference – Vienna, May 29th–June 2nd 2013*, edited by Neubauer, W., Trinks, I., Salisbury, R., and Einwögerer, C., pp. 1–3. Vienna: Austrian Academy of Sciences Press.
- Felitsyn, E. D. 1904 'Zapadnokavkazskie dol'meny', *Materialy po arkheologii Kavkaza* 9: 14–31.
- Ferring, R., Oms, O., Agust, J., Berna, A., Nioradze, M., Shelia, T., Tappen, M., Vekua, A., Zhvania, D., and Lordkipanidze, D. 2011 'Earliest human occupations at Dmanisi (Georgian Caucasus) dated to 1.85–1.78 Ma', *Proceedings of the National Academy of Sciences* 108 (26): 10432–10436.
- Formozov, A. A. 1965 *Kamennyi vek i eneolit Prikuban'ia*. Moscow: Nauka.
- Formozov, A. A. and Chernykh, E. N. 1964 'Novye poseleniia maikopskoi kul'tury v Prikuban'e', *Kratkie soobshcheniia odokladakh i polevykh issledovaniakh* 101: 102–110.
- Fourloubey, C., Beauval, C., Colonge, D., Liagre, D., Ollivier, J., and Chataigner, C. 2003 'Le Paléolithique en Arménie: état des connaissances acquises et données récentes', *Paléorient* 29.1: 5–18.
- Frangipane, M. 2000 'The Late Chalcolithic/EB I sequence at Arslantepe: Chronological and cultural remarks from a frontier site', in *Chronologies des Pays du Caucase et de l'Euphrate aux IVe–IIIe Millénaires: Actes du Colloque d'Istanbul, 16–19 Décembre 1998*, edited by C. Marro and H. Hauptmann (Varia Anatolica 11), pp. 439–471. Paris: Institut Français d'Etudes Anatoliennes d'Istanbul & de Boccard.
- . 2001 'The transition between two opposing forms of power at Arslantepe (Malatya) at the beginning of the third millennium', *Türkiye Bilimler Akademisi Arkeoloji Dergisi* 4: 1–24.
- . 2014 'After collapse: Continuity and disruption in the settlement by Kura-Araxes-linked pastoral groups at Arslantepe-Malatya (Turkey). New data', *Paléorient* 40.2: 169–182.
- Frangipane, M., Di Nocera, G. M., Hauptmann, A., Morbidelli, P., Palmieri, A., M., Sadori, L.,

- Schultz, M., and Schmidt-Schultz, T. 2001 'New symbols of a new power in a "Royal" tomb from 3000 BC, Arslantepe, Malatya (Turkey)', *Paléorient* 27/2: 105–139.
- Frangipane, M. and Palumbi, G. 2007 'Red-black ware, pastoralism, trade, and Anatolian-Transcaucasian interactions in the 4th–3rd millennium BC', in *Les cultures du Caucase (VI–III^{ème} millénaires av. notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 233–256. Paris: CNRS Éditions.
- Frankel, D. and Webb, J. 2006 *Marki Alonia 2. An Early and Middle Bronze Age Town in Cyprus. Excavations 1995–2000* (Studies in Mediterranean Archaeology 123). Sävedalen: Åström Editions.
- Furst, P.T. (ed.) 1972 *Flesh of the Gods: The Ritual Use of Hallucinogens*. London: George Allen & Unwin.
- Gabunia, L., Vekua, A., and Lordkipanidze D. 2000b, 'The environmental contexts of early human occupation of Georgia (Transcaucasia)', *Journal of Human Evolution* 38(6): 785–802.
- Gabunia, L., Vekua, A., Lordkipanidze, D., Swisher, C. C. III, Ferring, R., Justus, A., Nioradze, M., Tvalchrelidze, M., Anton, S. C., Bosinski, G., Joris, O., Lumley, M. A., Majsuradze, G., and Mouskhelishvili, A. 2000a 'Earliest Pleistocene hominid cranial remains from Dmanisi, Republic of Georgia: Taxonomy, geological setting, and age', *Science* 288 (5468): 1019–1025.
- Gabunia, M. and Vekua A. K., 1980 *Patara xramis petroglyp'ebi*. Tbilisi: Metsniereba. (In Georgian).
- Gadzhiev, M. G. 1966 'Novye dannye o iuzhnykh svyazyakh Dagestana v IV–III tysyachetii do N. E.', *Kratkie soobshcheniia o dokladakh i polevykh issledovaniakh Instituta arkeologii AN SSSR* 108: 55–61.
- . 1969 *Iz istorii kul'tury Dagestana ve epokhu bronzy (mogil'nik Ginchii)*. Makhachkala: Tip. Dagestanskogo filiala AN SSSR.
- . 1975 'Eneoliticheskaia kultura Dagestana', *Krupnovskie Chteniia* 5: 18–22.
- . 1983 'Poseleniia gornogo Dagestana epokhi rannei bronzy', in *Drevnie i srednevekovye poseleniia Dagestana*, pp. 6–42. Makhachkala.
- . 1987 *Kultura rannezemledelcheskikh plemen Severo-vostochnogo Kavkaza: (Epokha eneolit i rannei bronzy)*. Aftoref. dis. d-ra. ist. nauk. Erevan.
- . 1989 *Poseleniia i zhilishcha Dagestana epokhi rannei bronzy: Drevniaia i srednevekovaiia arkhitektura Dagestana*. Makhachala.
- Gadzhiev, M. G., Kohl, P. L., Magomedov, R. G., Stronach, D., and Gadzhiev, S. M. 2000 'Daghestan-American archaeological investigations in Daghestan, Russia 1997–99', *Eurasia Antiqua* 6: 47–123.
- Gadzhiev, M. G., Magomedov, R. G., and Kohl, P. L. 1996 'Novye katakombnye mogil'niki epokhi bronzy v okretnostiakh sel. Velikent', in *Aktual'nye problem arkeologii Severnogo Kavkaza (XIX 'Krupnovskie chteniia')* (Moskva, april' 1996 g.). *Tezisy Dokladov*, pp. 51–52. Moscow: Russian Academy of Science.
- Gadzhiev, M. G., Magomedov, R. G., Kohl, P. L., and Stronach, D. 1995 'The 1994 excavations of the Daghestan-American archaeological expedition to Velikent in southern Daghestan', *Iran* 33: 139–147.
- . 1997 'The 1995 Daghestan-American Velikent expedition: Excavations in Daghestan, Russia (with an appendix on the Velikent fauna by A. Morales and flora by A. Arnaz)', *Eurasia Antiqua* 3: 1–40.
- Gagoshidze, I., Koridze, E., and Gogichaishvili, A. 1986 'Shida Kartlis arkeologiuri ekspediciis 1979–1981 tslebis savele mushaobis angarishi', *Sakartvelos Saxelmispi Muzeumis Arkeologiuri Ekspediciebi* 8: 56–67.
- Galibin, V. A. 1991 'Izdeliia iz tsvetnogo i blagorodnogo metalla pamiatnikov epokhi rannei I srednei bronzy Severnogo Kavkaza', *Drevnie Kul'tury Prikuban'ia*. Leningrad.
- Gambashidze, I., Mindiasvili, G., Gogotskhuri, G., Kakhiani, K., and Dzhaparidze, I. 2010 *Alte Metallurgie und Bergbau in Georgien in 6.–3. Jt. v. Chr.* Tbilisi: Mtsignobari. (In Georgian with German summary).
- Gambashidze, I. and Stöllner, T. (eds.) 2016 *The Gold of Sakdrisi: Man's First Gold Mining Enterprise*. Rahden/Westf.: Verlag Marie Leidorf GmbH.
- Gamble, C. 1999 *The Palaeolithic Societies of Europe*. Cambridge: Cambridge University Press.
- Gamkrelidze, G. 2004 'On the history of the archaeology of Georgia (Part I)', *Journal of Georgian Archaeology* 1: 208–217.
- . 2008 *In the Path of Georgian Archaeology*. Tbilisi: Georgian National Museum.
- . 2010 (ed.) *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*. Tbilisi: Georgian National Museum.

- Gamkrelidze, T. V. and Ivanov, V. V. 1995 *Indo-European and the Indo-Europeans: A Reconstruction and Historical Analysis of a Proto-language and a Proto-culture* (Trends in Linguistics: Studies and Monographs, 80). Berlin: Mouton de Gruyter.
- Gasparyan, B. 2010 'Landscape organization and resource management in the Lower Palaeolithic of Armenia', *Türkiye Bilimler Akademisi Arkeoloji Dergisi* 13: 159–183.
- Gasparyan, B., Adler, D. S., Egeland, C. P., and Azatyan, K. 2014a 'Recently discovered Lower Paleolithic sites of Armenia', in *Stone Age of Armenia: A Guide-book to the Stone Age Archaeology in the Republic of Armenia*, edited by B. Gasparyan and M. Arimura, pp. 37–64. Kanazawa: Kanazawa University.
- Gasparyan, B., Egeland, C. P., Adler, D. S., Pinhasi, R., Glauberman, P., and Haydosyan, H. 2014b 'The Middle Paleolithic occupation of Armenia: Summarizing old and new data', in *Stone Age of Armenia: A Guide-book to the Stone Age Archaeology in the Republic of Armenia*, edited by B. Gasparyan and M. Arimura, pp. 65–106. Kanazawa: Kanazawa University.
- Gei, A. N. 2008 'Pogrebal'nye pamiatniki Maikopskoi kult'ury v nizov'iakh Kubani', in *Arkheologiia Kabkaza i Blizhnego Vostoka. Sbornikh k 80-letiiu Profesora R. M. Munchaeva*, pp. 177–195. Moscow: Taus.
- Getzov, N. 2006 *The Tel Bet Yerah Excavations, 1994–1995* (IAA Reports 28). Jerusalem: Israel Antiquities Authority.
- Gevorkian, A. Ts. 1980 *Iz istorii drevneishei metallurgii Armianskogo Nagoria*. Erevan: Izdatelstvo Akademii Nauk Armianskoi SSR.
- Gimbutas, M. 1965 *Bronze Age Cultures in Central and Eastern Europe*. The Hague: Mouton.
- Glatz, C. and Matthews, R. 2005 'Anthropology of a frontier zone: Hittite-Kaska relations in Late Bronze Age north-central Anatolia', *Bulletin of the American Schools of Oriental Research* 339: 47–65.
- Glonti, L. I. 1975 'Mtkvar-araqsis kulturis dzegebi', in *Kvemo Kartlis arqeologiuri eqspeditsiis shedegebi (1965–1971 gg.)*, pp. 129–136. Tbilisi: Metsniereba. (In Georgian).
- Glonti, L., Ketskhoveli, M., and Palumbi, G. 2008 'The cemetery at Kvatskelebi', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 153–185. Leuven: Peeters.
- Glumac, P. and Anthony, D. 1992 'Culture and Environment in the Prehistoric Caucasus: The Neolithic through the Early Bronze Age', edited by R. W. Ehrich, 3rd ed., vol. 1, pp. 196–206, Chicago: University of Chicago Press.
- Gobedzhishvili, G. F. 1952 *Arkheologicheskie ras-kopki v sovetskoi Gruzii*. Tbilisi: Akaedmiia Nauk Gruzinski SSR. (In Georgian).
- . 1959 'Ganvitarebuli rknis khans dzegebi rionis sataveebtan', in *Sakartvelso archeologia*, edited by A. Apakidze, pp. 190–206. Izdatel'stvo tbilisskogo universiteta. (In Georgian with Russian summary).
- . 1978 *Selishche Tetri-Tskaro*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- . 1980 *Bedeni – Kul'tura kurgannikh pogrevenii*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- Gobejishvili, N. 2014 *Samarkhta konstrukcia da dakrdzalvis tsesi kolkhuri da kobanuri kulturebis mikhedvit / Burial Constructions and Funerary Customs of Colchian and Kobanian Cultures*. Tbilisi: Georgian National Museum. (In Georgian with English summary).
- Goehring, U. 2008 'Ceramics of Tqisbolo-Gora, Georgia: Second and first millennia BCE horizons', in *Ceramics in Transitions: Chalcolithic through Iron Age in the Highlands of the Southern Caucasus and Anatolia*, edited by K. S. Robinson and A. Sagona, pp. 199–233. Leuven: Peeters.
- Gogadze, E. M. 1972 *Periodizatsiia i Genezis Kurgannoi Kultury Trialeti /The Periodisation and Genesis of the Trialeti Kurgan Culture*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- . 1982 *Kul'tura poselenii Kolkhidy epokhi bronzy i rannego zheleza /The Culture of Colchian settlements in the Bronze and Early Iron Ages*. Tbilisi: Metsniereba. (In Georgian with a Russian summary).
- . 1984 'Kboprosu o khronologii i periodizatsii pamiatnikov kolkhidskoi kul'tury: (Po materialam Nosiri-Muzhurcha)', *Vestnik Gos. Muzeiia Gruzii AN GSSR* 34-B: 28–54.
- Gogadze, E. M. and Pantskhava, L. N. 1989 'Kolkhidskaia kul'tura epokhi bronzy i rannego zheleza', *Vestnik Gos. Muzeiia Gruzii AN GSSR* 42-B: 35–40.
- Gogelia, D. D. 1982 'Kvemo-Kartliyskaia arkheologicheskaia ekspeditsiia 1970–1980 gg.', *Polevye Arkheologicheskiye Issledovaniia* 1980: 13–17.

- Gogelia, D. D. and Chelidze, L. M. 1985 'Issledovaniia ekspeditsii Kvemo-Kartli', *Polevye Arkheologicheskie Issledovaniia. Kratkie Soobshcheniia* 1982: 13–16.
- . 1992 'Eneoliti', in *Sak'art'velos ark'eologia: Eneolith- adrebrinjao khanashi*, vol. 2, edited by O. Dzharparidze, pp. 17–35. Tbilisi: Tbilisi universitetis. (In Georgian).
- . 1997 'O rabote Kvemo-Kartliyskoi ekspeditsii', *Polevye arkheologicheskie issledovaniia. Kratkie soobshcheniia* 1988: 30–35.
- Gogelia, D. D., Chelidze, L. M., and Avalishvili, G. B. 1991 'O polevykh rabotakh Kvemo-Kartliyskoi ekspeditsii v 1985–86 gg', *Polevye arkheologicheskie issledovaniia. Kratkie soobshcheniia* 1986: 10–14.
- Gogochuri, G. 2008 'Archaeological sites of the Early Barrow Period in the Aragvi Gorge', in *Archaeology in the Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 37–62. Leuven: Peeters.
- Gogochuri, G. and Orjonikidze, A. 2010 'The Kura-Araxes culture settlement and cemetery at Tiselis Seri', in *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 119–132. Tbilisi: Georgian National Museum.
- Golovanova, L. V. 2000 'Late Acheulean of the Northern Caucasus and the problem of transition to the Middle Palaeolithic', in *Early Humans at the Gates of Europe, Proceedings of the First International Symposium, Dmanisi, Tbilisi (Georgia), September 1998* (ERAUL 92), edited by D. Lordkipanidze, O. Bar-Yosef, and M. Otte, pp. 49–65. Liège: Université de Liège.
- Golovanova, L. V., Cleghorn, N. E., Doronichev, V. B., Hoffecker, J. E., Burr, G. S., and Sulergizkiy, L. D. 2006 'The Early Upper Paleolithic in the northern Caucasus (new data from Mezmaiskaya Cave, 1997 excavation)', *Eurasian Prehistory* 4 (1–2): 43–78.
- Golovanova, L. V. and Doronichev, V. B. 2003 'The Middle Paleolithic of the Caucasus', *Journal of World Prehistory* 17: 71–140.
- Golovanova, L. V., Doronichev, V. B., Cleghorn, N. E., Koulkova, M. A., Sapelko, T. V., and Shackley, M. S. 2010 'Significance of ecological factors in the Middle to Upper Paleolithic transition', *Current Anthropology* 51 (5): 655–691.
- Golovanova, L. V., Hoffecker, J. F., Kharitonov, V. M., and Romanova, G. P. 1999 'Mezmaiskaya Cave: A Neanderthal occupation in the northern Caucasus', *Current Anthropology* 40: 77–86.
- Gomelaury, N. 2008 'The cultural attribution of the Barrow 1 at Tsitelgori', in *Archaeology in the Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies 19), edited by A. Sagona and M. Abramishvili, pp. 365–378. Leuven: Peeters.
- Goring-Morris, N. and Belfer-Cohen, A. 2008 'A roof over one's head: Developments in Near Eastern residential architecture across the Epipalaeolithic-Neolithic transition', in *The Neolithic Demographic Transition and its Consequences*, edited by J.-P. Bocquet-Appel and O. Bar-Yosef, pp. 239–286. Dordrecht: Springer.
- Govedarica, B. 2002 'Die Maikop-Kultur zwischen Europa und Asien: Zur Entstehung einer Hochkultur in Nordkaukasus während des 4. Jts v. Chr.', in R. Aslan, S. Blum, G. Kastl, F. Schweizer, and D. Thumm (eds.) *Mauer Schau: Festschrift für Manfred Korfmann*, vol. 1, pp. 781–799. Remshalden-Grunbach: Albert Greiner.
- Graeber, D. 2001 *Toward an Anthropological Theory of Value: The False Coin of Our Own Dreams*. New York: Palgrave.
- Green, A. R. W. 1975 *The Role of Human Sacrifice in the Ancient Near East*. Missoula, Montana: Scholars Press, American Schools of Oriental Research Dissertation Series.
- Green, M. 1998 'Humans as ritual victims in the later prehistory of Western Europe', *Oxford Journal of Archaeology* 17: 169–189.
- Green, R. E., Krause, J., Briggs, A. W., Marcic, T., Stensel, U., Kircher, M., Patterson, N., Fritz, M., Hansen, N., Durand, E. Y., Malaspina, A.-S., Jensen, J. D., Marques-Bonet, T., Alkan, C., Prüfer, K., Meyer, M., Burbano, H. A., Good, J. M., Schultz, R., Aximu-Petri, A., Butthof, A., Höber, B., Höffner, B., Siegemund, M., Weihmann, A., Nusbaum, C., Lander, E. S., Russ, C., Novod, N., Affourtit, J., Egholm, M., Verna, C., Rudan, P., Brajkovic, D., Kucan, Ž., Gušić, I., Doronichev, V. B., Golovanova, L. V., Lalueza-Fox, C., de la Rasilla, M., Fortea, J., Rosas, A., Schmitz, R. W., Eichler, E. E., Falush, D., Birney, E., Mullikan, J. C., Slatkin, M., Neilsen, R., Kelso, J., Lachmann, M., Reich, D., and Pääbo, S. 2010 'A draft sequence of the Neandertal genome', *Science* 328: 710–722.
- Greenberg, R. 2007 'Transcaucasian colors: Khirbet Kerak Ware at Khirbet Kerak', in *Les*

- cultures du Caucase (VI-III^{ème} millénaires av. notre ère). *Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 257–268. Paris: CNRS Éditions
- . 2014a *Bet Yerah: The Early Bronze Age Mound*. Vol. II. *Urban Structure and Material Culture, 1933–1986 Excavations* (IAA Reports 54). Jerusalem: Israel Antiquities Authority.
- . 2014b ‘Ox-carts and the Kura-Araxes migrations’, *Proceedings of the International Conference on the Problems of Early Metal Age Archaeology of Caucasus and Anatolia, November 19–23, 2014, Georgia*, edited by G. Narimanishvili, pp. 94–101. Tbilisi.
- Greenberg, R., Eisenberg, E., Paz, S., and Paz, Y. 2006 *Bet Yerah: The Early Bronze Age Mound*. Vol. 1. *Excavation Reports, 1933–1986*. Jerusalem: Israel Antiquities Authority.
- Greenberg, R. and Goren, Y. 2009 ‘Introduction: Migrating technologies at the cusp of the Early Bronze Age III’, *Tel Aviv* 36(2): 129–134.
- Greenberg R. and Paz, Y. 2005 ‘The Early Bronze Age fortifications of Tel Bet Yerah’, *Levant* 37: 81–103.
- Greenberg, R., Shimelmitz, R., and Iserlis, M. 2015 ‘New evidence for the Anatolian origins of “Khirbet Kerak Ware People” at Tel Bet Yerah (Israel), ca 2800 BC’, *Paléorient* 40 (2): 183–201.
- Greene, A. F. 2012 ‘Where pottery and politics meet: Mundane objects and complex political life in the Late Bronze Age South Caucasus’, in *The Archaeology of Power and Politics in Eurasia: Regimes and Revolutions*, edited by C. W. Hartley, G. B. Yazicioğlu, and A. T. Smith, pp. 302–322. Cambridge: Cambridge University Press.
- Grigolia, G. 1972 ‘Rezultaty rabot Zapdnogruzinskoi arkhéologicheskoi ekspeditsii za 1969 g.’, in *Arkheologicheskie issledovaniia v Gruzii*, pp. 18–20. Tbilisi. (In Georgian).
- . 1977 *Neolit Tsentralnoi Kolkhidy Paluri*. Tbilisi: Metsniereba. (In Georgian).
- Gulisashvili, V. Z., Mahatadze, L. B., and Prilipko, L. I. 1975 *Rastitelnost Kavkaza*. Moscow: Nauka.
- Guliyev, F. and Nishiaki, Y. 2012a ‘Excavations at the Neolithic settlement of Göytepe, the middle Kura Valley, Azerbaijan, 2008–2009’, in *Proceedings of the 7th International Congress of the Archaeology of the Ancient Near East: 12 April–16 April 2010, the British Museum and UCL, London*. Vol. 3. *Fieldwork and Recent Research*, edited by R. Matthews and J. Curtis, pp. 71–84. Wiesbaden: Harrassowitz Verlag.
- . 2012b *The Starting Point of Civilization: The Early Village of Goytepe*. Baku: Institute of Archaeology and Ethnography & National Academy of Sciences of Azerbaijan. (In Azerbaijani and English).
- Gülçür, S. 2000 ‘Norşuntepe: Die Chalkolithische keramik (Elazığ/Ostanatolien)’, in *Chronologies des pays du Caucase et de l’euphrate aux IV^e–III^e millénaires: Actes du colloque d’Istanbul, 16–19 décembre 1998*, edited by C. Marro and H. Hauptmann, pp. 375–418. Paris: De Boccard.
- Gummel, Ya. 1992 ‘Raskopki k iugo-zapadu ot Chanlar v 1941 g’, *Vestnik Drevney Istorii* 4 (203): 5–12, 15.
- Guseinov M. M. 1985 *Drevnii Paleolit Azerbajdzana: Kul’tura Kuruchai i etapy ego razvitiia*. Baku: Elm.
- Haak, W., Lazaridis, I., Patterson, N., Rohland, N., Mallick, S., Llamas, B., Brandt, G., Nordenfelt, S., Harney, E., Stewardson, K., Fu, O., Mittnik, A., Bánffy, E., Economou, C., Francken, M., Friederich, S., Garrido Pena, R., Hallgren, F., Khartanovich, V., Khokhlov, A., Kunst, M., Kuznetsov, P., Meller, P., Mochalov, O., Moiseyev, V., Nicklisch, N., Pichler, S. L., Risch, R., Rojo Guerra, M. A., Roth, C., Szécsényi-Nagy, A., Wahl, J., Meyer, M., Krause, J., Brown, D., Anthony, D., Cooper, A., Alt, K. W., and Reich, D. 2015 ‘Massive migration from the steppe is a source for Indo-European languages in Europe’, *Nature* 552: 207–211.
- Halstead, P. (with V. Isaakidou) 2011 ‘Revolutionary secondary products: The development and significance of milking, animal-traction and wool-gathering in later prehistoric Europe and the Near East’, in *Interweaving Worlds: Systemic Interactions in Eurasia, 7th to 1st Millennia BC*, edited by T. Wilkinson, S. Sherratt, and J. Bennet, pp. 61–76. Oxford: Oxbow.
- Hamlin, C. 1975 ‘Dalma Tepe’, *Iran* 13: 111–128.
- Hammer, E. 2014 ‘Highland fortress-polities and their settlement systems in the southern Caucasus’, *Antiquity* 88: 757–774.
- Hamon, C. 2007 ‘Modes de subsistence et activités dans le Chalcolithique du Caucase Nord: étude fonctionnelle des outils en pierre de la culture de Maïkop’, in *Les cultures du Caucase (VI-III^{ème} millénaires av. notre ère)*.

- Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 189–198. CNRS Éditions: Paris.
- . 2008 ‘From Neolithic to Chalcolithic in the southern Caucasus: Economy and macrolithic implements from Shulaveri-Shomu sites of Kwemo-Kartli (Georgia)’, *Paléorient* 34 (2): 85–135.
- . 2016 ‘Salt mining tools and techniques from Duzdağı (Nakhchivan, Azerbaijan) in the 5th to 3rd millennium B.C.’, *Journal of Field Archaeology* 41.4: 510–528.
- Hamon, C., Jalabadze, M., Agapishvili, T., Baudouin, E., Koridze, I., and Messenger, E. 2016 ‘Gadachrili Gora: Architecture and organisation of a Neolithic settlement in the middle Kura Valley (6th millennium BC, Georgia)’, *Quaternary International* 395: 154–169.
- Hančar, F. 1937 *Urgeschichte Kaukasiens von den Anfängen seiner Besiedlung bis in die Zeit seiner frühen Metallurgie*. Vienna: A. Schroll & Co.
- Hansen, B. and Mirtskhulava, G. 2012 ‘The Neolithic settlement of Arukhlö. Report on the excavations in 2009–2011’, in ‘Ancient Kura 2010–2011: The first two seasons of joint field work in the southern Caucasus’, edited by B. Lyonnet et al., *Archäologische Mitteilungen aus Iran und Turan* 44: 58–86.
- Hansen, S. 2009 ‘Kupfer, Gold und Silber im Schwarzmeerraum während des 5. und 4. Jahrtausends v. Chr.’, in *Der Schwarzmeerraum vom Äneolithikum bis in die Früheisenzeit (5000–500 v. Chr.). Kommunikationsebenen zwischen Kaukasus und Karpaten. Internationale Fachtagung von Humboldtianern für Humboldtianer in Humboldt-Kolleg in Tiflis/Georgien (17–20 Mai 2007)*, edited by J. Apakidze, B. Govedarica, and B. Hänsel, pp. 11–50. Rahden/Westf.: Verlag Marie Leidorf GmbH.
- . 2010 ‘Communication and exchange between the Northern Caucasus and Central Europe in the fourth millennium BC’, in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 297–316. Bonn: Dr Rudolf Habelt GmbH.
- . 2014 ‘Gold and silver in the Maikop culture’, in *Metals of Power – Early Gold and Silver: 6th Archaeological Conference of Central Germany October 17–19, 2013 in Halle (Saale)*, edited by Meller, H., Risch, R., and Pernicka, E., pp. 389–410. Halle: Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt – Landesmuseum für Vorgeschichte Halle (Saale).
- Hansen, S., Mirtskhulava, G., Bastert-Lamprichs, K., Benecke, N., Gatsov, I., and Nedelcheva, P. 2006 ‘Aruchlo 2005–2006: Bericht über die Ausgrabungen in einem neolithischen Siedlungshügel’, *Archäologische Mitteilungen aus Iran und Turan* 38: 1–34.
- Hansen, S., Mirtskhulava, G., Bastert-Lamprichs, K., Görsdorf, J., Neumann, D., Ullrich, M., Gatsov, I., and Nedelcheva, P. 2007 ‘Aruchlo 2007: Bericht über die Ausgrabungen im neolithischen Siedlungshügel’, *Archäologische Mitteilungen aus Iran und Turan* 39: 1–30.
- Hardin, C. L. and Maffi, L. (eds.) 1997 *Color Categories in Thought and Language*. Cambridge: Cambridge University.
- Harding, A. F. 2000 *European Societies in the Bronze Age*. Cambridge: Cambridge University Press.
- Harmand, S., Lewis, J. E., Feibel, C. S., Lepre, C. J., Prat, S., Lenoble, A., Boës, X., Quinn, R. L., Brenet, M., Arroyo, A., Taylor, N., Clément, S., Daver, D., Brugal, J.-P., Leakey, L., Mortlock, R. A., Wright, J. D., Lokorodi, S., Kirwa, C., Kent, D. V., and Roche, H. 2015 ‘3.3-million-year-old stone tools from Lomekwi 3, West Turkana, Kenya’, *Nature* 521: 310–315.
- Hauptmann, A. 2011 ‘Gold in Georgia I: Scientific investigations into the composition of gold’, in *Anatolian Metals V (Der Anschnitt 24/Veröffentlichungen aus dem Deutschem Bergbau-Museum 180)*, edited by Ü. Yalçın, pp. 173–186. Bochum: Deutsches Bergbau-Museum.
- Hauptmann, H. 2000 ‘Zur Chronologie des 3. Jahrtausends v. Chr. am oberen Euphrat aufgrund der Stratigraphie des Norşuntepe’, in *Chronologie des pays du Caucase et de l’Euphrate aux IV^e–III^e millénaires*, edited by C. Marro and H. Hauptmann (Varia Anatolica 11), pp. 419–438. Istanbul: Institut Français d’Études Anatoliennes Georges Dumezil.
- Häusler, F. 1994 ‘Die Majkop-Kultur und Mitteleuropa’, *Zeitschrift für Archäologie* 28: 191–246.
- Heinsch, M. F. 2012 ‘Revolutions within production regimes: A study of technical variation in Kura-Araxes horizon pottery of the Eastern Caucasus’, in *The Archaeology of Power and Politics in Eurasia: Regimes and Revolutions*,

- edited by C. W. Hartley, G. B. Yazıcıoğlu, and A. T. Smith, pp. 323–336.
- Heit, I. 2012 ‘The bead workshop from site MPS 4,’ in ‘Ancient Kura 2010–2011: The first two seasons of joint field work in the southern Caucasus’, *Archäologische Mitteilungen aus Iran und Turan* 44: 48–50.
- Helwing, B. 2014 ‘East of Eden? A review of Turkey’s eastern neighbors in the Neolithic’, in *The Neolithic in Turkey: 10,500–5200 BC: Environment, Settlement, Flora, Fauna, Dating, Symbols of Belief, with Views from North, South, East and West*, edited by M. Özdoğan, N. Başgelen, and P. Kuniholm, pp. 321–377. Istanbul: Archaeology & Art Publications.
- Helwing, B. and Aliyev, T. 2012 ‘Field work in the Mİl Plain: The 2010–2011 expedition’, in ‘Ancient Kura 2010–2011: The first two seasons of joint field work in the southern Caucasus’, edited by B. Lyonnet et al., *Archäologische Mitteilungen aus Iran und Turan* 44: 4–17.
- Heptner, V. G., Nasimovich, A. A., and Bannikov, A. G. 1989 *Mammals of the Soviet Union*, Vol. I: *Ungulates*. Leiden: E. J. Brill.
- Hewitt, B. G. 2004 *Introduction to the Study of the Languages of the Caucasus*. Munich: Lincom Europa.
- Hewson, R. H. 2001 *Armenia. A Historical Atlas*. Chicago: Chicago University Press.
- Higham, T., Douka, K., Wood, R., Bronk Ramsey, C., Brock, F., Basell, L., Camps, M., Arrizabalaga, A., Baena, J., Barroso-Ruiz, C., Bergman, C., Boitard, C., Boscato, P., Caparrós, M., Conard, N. J., Draily, C., Froment, A., Galván, B., Gambassini, P., Garcia-Moreno, A., Grimaldi, S., Haesaerts, P., Holt, B., Iriarte-Chiapusso, M.-J., Jelinek, A. et al. 2014 ‘The timing and spatiotemporal patterning of Neanderthal disappearance’, *Nature* 512: 306–309.
- Hodder, I. 1984 ‘Burials, houses, women and men in the European Neolithic’, in *Ideology, Power and Prehistory*, edited by D. Miller and C. Tilley, pp. 51–68. Cambridge: Cambridge University Press.
- Hodder, I. and Hutson, S. 2003 *Reading the Past: Current Approaches to Interpretation in Archaeology*, 3rd ed. Cambridge: Cambridge University Press.
- Hoffecker, J. F. and Cleghorn, N. 2000 ‘Mousterian hunting patterns in the northwestern Caucasus and the ecology of the Neanderthals’, *Journal of Osteoarchaeology* 10: 368–378.
- Hovers, E., Ilani, S., Bar-Yosef, O., and Vandermeersch, B. 2003 ‘An early case of color symbolism: Ochre use by modern humans in Qafzeh Cave’, *Current Anthropology* 44 (4): 491–522.
- Hovsepyan, R. and Willcox, G. 2008 ‘The earliest finds of cultivated plants in Armenia: Evidence from charred remains and crop processing residues in pisé from the Neolithic settlements of Aratashen and Aknashen’, *Vegetational History and Archaeobotany* 17 (Supp. 1): S63–S71.
- Hovsepyan, R. A. 2010 ‘New data on agriculture of Aparan-III Early Bronze Age settlement (Armenia)’, *Biological Journal of Armenia* 4.62, “Gitutyun”, pp. 31–37.
- . 2015 ‘On the agriculture and vegetal food economy of Kura-Araxes culture in the South Caucasus’, *Paléorient* 41.1: 69–82.
- Howell-Meurs, S. 2001 *Early Bronze and Iron Age Animal Exploitation in Northeastern Anatolia: The Faunal Remains from Sos Höyük and Büyüktepe Höyük* (British Archaeological Reports, International Series 945). Archaeopress: Oxford.
- Hughes, D. D. 1991 *Human Sacrifice in Ancient Greece*. London: Routledge.
- Hunt, H. V., Campana, M. G., Lawes, M. C., Park, Y.-J., Bower, M. A., Howe, C. J., and Jones, M. K. 2011 ‘Genetic diversity and phylogeography of broomcorn millet (*Panicum miliaceum* L.) across Eurasia’, *Molecular Ecology* 20: 4756–4771.
- Iessen, A. A. 1935 ‘K istorii drevneishei metallurgii medi na Kavkaze’, *Izvestiia Gos. Akademii istorii material’noi kul’tury* 120: 7–237. Moscow and Leningrad.
- . 1950 ‘K khronologii “bol’shikh kubanskikh kurganov”’, *Sovetskaia Arkheologiya* 12: 157–202.
- . 1951 ‘Prekubanskii ochag metallurgii i metalloobrabotki v kontse medno-bronzovogo veka’, *Materialy i issledovaniya po arkheologii SSSR* 23: 75–124. Moscow and Leningrad.
- Il’iukov, L. S. 1979 ‘Metallicheskie bilki maikopskoi kul’tury’, *Krupnovskie Chteniia* 9: 5. Elista.
- Ingold, T. 2000 *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*. London: Routledge.
- Iserlis, M. 2009 ‘Khirbet Kerak Ware at Bet Yerah: Segregation and integration through technology’, *Tel Aviv* 36 (2): 181–195.
- Iserlis, M., Goren, Y., Hovsepyan, I., and Greenberg, R. 2015 ‘Early Kura-Araxes ceramic technology in the fourth millennium

- BCE site of Tsaghkasar, Armenia', *Paléorient* 41.1: 9–23.
- Işıklı, M. 2011 *Doğu Anadolu: Erken Transkafkasya Kültürü. Çok Bileşenli Gelişkin Bir Kültürün Analizi*. Istanbul: Arkeoloji ve Sanat Yayınları.
- Işıklı, M. and Baştürk, M. 2010 'Bronze axes from the Erzurum-Kars region: An elementary corpus', *Istanbuler Mitteilungen* 60: 39–65.
- Ismailov, G. S. 1963 *Iz istorii Drevneishei Kul'tury Zapadnogo Azerbaidzhana (Medno-Bronzovaya Epokha)*. Avtoref. dis. d-ra ist. nauk. Tbilisi.
- . 1972 'Poselenie na kholme Garakepektepe', *Arkheologicheskie Otkrytiia* 1971: 480.
- Ivanova, M. 2007 'The chronology of the "Maikop Culture" in the north Caucasus: Changing perspectives', *Aramazd. Armenian Journal of Near Eastern Studies* 2: 7–39.
- . 2012 'Kaukasus und Orient: Die Entstehung des "Maikop-Phänomens" im 4. Jahrtausend v. Chr.', *Prähistorische Zeitschrift* 87: 1–28.
- . 2013 *The Black Sea and the Early Civilizations of Europe, the Near East and Asia*. Cambridge: Cambridge University Press.
- Ivascenko, M. M. 1932 'Beiträge zur Vorgeschichte Abchasiens', *Eurasia Septentrionalis Antiqua* 7: 98–112.
- Jacobsen, T. 1976 *The Treasures of Darkness: A History of Mesopotamian Religion*. New Haven, CT: Yale University Press.
- Jalabadze, M. 2014 'Bedeni culture and Berikdeebi settlement' in *Problems of Early Metal Age Archaeology of Caucasus and Anatolia (Proceedings of an International Conference (November 19–23, 2014))*, edited by G. Narimanishvili, M. Kvachadze, M. Puturidze, and N. Shanshashvili, pp. 216–225. Tbilisi: Georgian National Museum.
- Jalabadze, M., Glonti, L., Koridze, I., Ketskhoveri, M., and Chilashvili, L. 2012 'Early Bronze Age cemeteries from Shida Kartli (Kura-Araxes-Bedeni)', in *Khashuri Natsargora: The Early Bronze Age Graves* (Publication of the Georgian-Italian Shida Kartli Archaeological Project I. Subartu 30), edited by M. Puturidze and E. Rova, pp. 59–94. Turnhout: Brepols.
- Jalabadze, M. and Palumbi, G. 2008 'Kura-Araxes Tombs at Takhtidziri', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 115–123. Leuven: Peeters.
- Jeunesse, C. 2011 'Enceintes à fossé discontinu et enceintes à pseudo-fossé dans le Néolithique d'Europe centrale et occidentale', in *Nécropoles et enceintes danubiennes du Ve mille'naire dans le Nord-Est de la France et le Sud-Ouest de l'Allemagne*, edited by A. Denaire, C. Jeunesse, and P. Lefranc, pp. 31–72. Strasbourg: Université de Strasbourg.
- Jibladze, L. 1997 'Kolkhitis dablobi da gare samkaro brinjaos khanashi', in *Saqartvelo evropamerika*, edited by I. Tabagua, pp. 13–18. Tbilisi: Institute of European and American Studies.
- Joannin, S., Ali, A. A., Ollivier, V., Roiron, P., Peyron, O., Chevaux, S., Nahapetyan, S., Tozalakyan, P., Karakhanyan, A., and Chataigner, C. 2014 'Vegetation, fire and climate history of the Lesser Caucasus: A new Holocene record from Zarishat fen (Armenia)', *Journal of Quaternary Science* 29 (1): 70–82.
- Jochim, M. 2011 'The Upper Paleolithic', in *European Prehistory: A Survey*, 2nd ed., edited by S. Milisauskas, pp. 67–124. New York: Springer.
- Johanson, L. 1998 'The history of Turkic', in *The Turkic Languages*, edited by L. Johanson and É. Ágnes Csátó, pp. 81–125. London: Routledge.
- Jones, E. P., Gonzalez-Fortes, G., Connell, S., Siska, V., Eriksson, A., Martiniano, R., McLaughlin, R. L., Llorente, M. G., Cassidy, L. M., Gamba, C., Meshveliani, T., Bar-Yosef, O., Müller, W., Belfer-Cohen, A., Matskevich, Z., Jakeli, N., Higham, T. F. G., Currat, M., Lordkipanidze, D., Hofreiter, M., Manica, A., Pinhasi, R., and Bradley, D. G. 2015 'Upper Palaeolithic genomes reveal deep roots of modern Eurasians', *Nature Communications* 6, Article number: 8912 doi:10.1038/ncomms9912
- Jones, S. 1996 'Discourses of identity in the interpretation of the past', in *Cultural Identity and Archaeology. The Construction of European Communities*, edited by P. Graves-Brown, S. Jones, and C. Gamble, pp. 62–80. London: Routledge.
- Joussaume, R. 1987 *Dolmens for the Dead: Megalith Building throughout the World*. London: Batsford.
- Kadowaki, S., Maher, L., Portillo, M., Albert, R. M., Akashi, C., Guliyev, F., and Nishiaki, Y. 2015 'Geoarchaeological and palaeobotanical evidence for prehistoric cereal storage in the

- southern Caucasus: The Neolithic settlement of Göytepe (mid 8th Millennium BP)', *Journal of Archaeological Science* 53: 408–425.
- Kafadarian, K. G. 1948 'Arkheologicheskaya rabota v Armenii posle ustanovleniya sovetского stroya', *Trudy Gosudarstvennogo Istoricheskogo Muzeya Armenii* 1: 9–65. (In Armenian).
- Kakhiani, K. and Ghlighvashvili, E. 2008 'Bronze Age barrows in Southeast Georgia', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 229–247. Leuven: Peeters.
- Kakhiani, K., Sagona, A., Sagona, C., Kvavadze, E., Bedianashvili, G., Messenger, E., Martin, L., Herrscher, E., Martkoplshvili, I., Birkett-Rees, J., and Longford, C. 2013 'Archaeological investigations at Chobareti in southern Georgia, the Caucasus', *Ancient Near Eastern Studies* 50: 1–135.
- Kakhiani, K. K., Gligvashvili, E. V., Dzneldze, M. S., Kalandadze, G. G., and Tskvitinidze, Z. R. 1991 'Arkheologicheskoe issledovanie mashaverskogo ushel'ya v 1984–86 gg', *Polevye Arkheologicheskie Issledovaniia. Kratkie Soobshcheniia* 1986: 51–59.
- Kakhiani, K. K., Gligvashvili, M. S., Kalandadze, G. G., and Tskvitinidze, Z. R. 1995 'O rabote ekspeditsii mashaverskogo ushel'ia', *Polevye Arkheologicheskie Issledovaniia. Kratkie Soobshcheniia* 1987: 62–69.
- Kakhiani, K. K., Gligvashvili, M. S., Sherazadishvili, Z. R., and Tskvitinidze, Z. R. 1997 'Polevye raboty ekspeditsii mashaverskogo ushel'ia', *Polevye Arkheologicheskie Issledovaniia. Kratkie Soobshcheniia* 1988: 57–61.
- Kalandadze, A. N. 1939 'Ostatki mezoliticheskoi i neoliticheskoi kultury v Gruzii (Po raskopkam v Odishi)', *Izvestiia Instituta iazyka, istorii i material'noi Kul'tury* 4(3): 363–371.
- Kalandadze, K. S. 1984 *Neoliticheskaiia kul'tura Zapadnoi Gruzii v sbete novykh arkheologicheskikh otkrytii'*. Avtoref. dand. dis. Akademia Nauk GSSR, Tsentr arkheologicheskikh issledovani. Tbilisi. (In Russian).
- Kalantaryan, A., ed. 2007 *The Gold of Ancient Armenia (III mill. BC – 14 cent. AD)*. Yerevan: Gitutyun. (In Armenian).
- Kalantaryan, I. 2007 'The principal forms and characteristics of burial constructions in Early Bronze Age Armenia', *Aramazd: Armenian Journal of Near Eastern Studies* 2: 7–39.
- Karakhanian G. O. and Safian P. G. 1970 *Arkheologicheskii Pamiatniki Armeniia*, Vol. 4. *Naskal'nye izobrazheniia Siunika. Archaeological Monuments of Armenia, 4; Rock Art of Siunik*. Yerevan: AN Armenian SSR. (In Armenian with Russian summary).
- Karapetyan, S. G., Jrbashyan, R., Mnatsakanyan, A. K., and Shirinyan, K. 2010 'Obsidian sources in Armenia – The geological background', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 15–25. Bonn: Dr Rudolf Habelt GmbH.
- Kastl, G. 2008 'Didi Gora and Tqisbolo-Gora: Two Middle Bronze Age settlements in the Alazani Valley, Kakheti, eastern Georgia', in *Ceramics in Transitions: Chalcolithic Through Iron Age in the Highlands of the Southern Caucasus and Anatolia* (Ancient Near Eastern Studies Supplement 27), edited by K. S. Robinson and A. Sagona, pp. 185–198. Leuven: Peeters.
- Kavtaradze, G. L. 1983 *K khronologii epokhi eneolita i bronzi Gruzii*. Tbilisi: Metsniereba.
- . 1999 'The importance of metallurgical data for the formation of a central Transcaucasian chronology', in *The Beginnings of Metallurgy. Proceedings of the International Conference 'The Beginnings of Metallurgy', Bochum 1995*, edited by A. Hauptmann, E. Pernicka, T. Rehren, and Ü.Yalçın, pp. 67–101. *Sher Anshniti Beiheft* 9. Bochum: Deutsches Bergbau-Museum.
- . 2004 'The chronology of the Caucasus during the Early Metal Age: Observations from central Trans-Caucasus', in *A View from the Highlands: Archaeological Studies in Honour of Charles Burney* (Ancient Near Eastern Studies Supplement 12), edited by A. Sagona, pp. 537–556. Leuven: Peeters.
- . 2014 'On the importance of the Caucasian chronology for the foundation of the common Near Eastern – East European chronological system', in *The Proceedings of the Ivane Javakhishvili Institute of History and Ethnology XII-XIII: Dedicated to the 75th Year Anniversary of Professor Tamaz Beradze's Birth*, edited by V. Kiknadze, pp. 23–45. Tbilisi: Ivane Javakhishvili Tbilisi State University.
- Keller, J., Djerbashian, R., Karapetian, S.G., Pernicka, E., and Nasedkin, V. 1996 'Armenian

- and Caucasian obsidian occurrences and sources for the Neolithic trade: Volcanological setting and chemical characteristics', in *Archaeometry 94: Proceedings of the 29th Symposium on Archaeometry*, edited by S. Demirci, A. M. Özer, and G. Summers, pp. 69–86. Ankara: TÜBİTAK.
- Keller, J. and Seifried, C. 1990 'The present state of obsidian source identification in Anatolia and the Near East', in *Volcanologie et Archéologie*, Part 25, edited by C. Albore Livadi and F. Wideman, pp. 58–87. Strasbourg: Council of Europe.
- Kelly-Buccellati, M. 1979 'The Outer Fertile Crescent culture: North eastern connections of Syria and Palestine in the third millennium B.C.', *Ugarit-Forschungen 1979 (Festschrift für Claude F. A. Schaeffer)* 11: 413–430.
- . 2004 'Andirons at Urkesh: New evidence for the Hurrian identity of Early Trans-Caucasian culture', in *A View from the Highlands: Archaeological Studies in Honour of Charles Burney*, edited by A. Sagona, pp. 67–89. Leuven: Peeters.
- Kent, S. 1990 'A cross-cultural study of segmentation, architecture, and the use of space', in *Domestic Architecture and the Use of Space: An Interdisciplinary Cross-Cultural Study*, edited by S. Kent, pp. 127–152. Cambridge: Cambridge University Press.
- Kesamanly, G. P., Dzhamarov, G. F., and Babaev, I. A. 1978 'Raboty Samkhorskogo otriada', *Arkheologicheskie Otkrytiia 1977*: 478–499.
- Kesamanly, G. P., Dzhamarov, G. F., and Narimanov, I. G. 1979 'Raboty Samkhorskogo ekspeditsii', *Arkheologicheskie Otkrytiia 1978*: 514–515.
- Khachatrian, T. S. 1975 *Drevnaia kul'tura*. Erevan: Izdatel'stvo Erevanskogo universiteta.
- . 1978 'Arkheologicheskie issledovaniia v Vostochnoi Armenii vo 2-i polovine XIX vekov i v nachale XX vekov', *Voprosy Istorii (Mezhvuzovskii Sbornik Nauchnykh Trudov)*, pp. 180–202. Yerevan.
- . 1979 *Artiksy nekropol': Katalog*. Erevan: Izdatel'stvo Erevanskogo universiteta. (In Russian).
- Khakhutaishvili, D. A. 2009 *The Manufacture of Iron in Ancient Colchis* (British Archaeological Reports International Series, 1905). Oxford: Archaeopress.
- Khakhutaishvili, N. 2001 'Development of iron metallurgy in West Transcaucasia (historical Kolkheti)', *Metalla 12*: 80–87.
- . 2006 'Ancient iron production related to the recent findings on Gonio Castle surroundings (2001–2003)', *Eirene 42*: 222–234.
- . 2008 'An ancient Colchian center of iron metallurgy at Chorokhi: Excavations in 2001', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramashvili, pp. 397–405. Leuven: Peeters.
- Khazadian, E. V. 1969 *Garni IV: Resultaty Raskopok 1949–1966 gg. s rannei bronzy po urartskii period*. Erevan: Izdatel'stvo Akademiia Nauk Armianskoi SSR. (In Armenian with Russian summary).
- . 1979 *Elar-Darani*. Erevan: Akademiia Nauk Armianskoi SSR. (In Armenian with Russian and German summaries).
- . 1995 *Metsamor 2, 1: La necropole 1. Les tombes du bronze moyen et recent* (Civilisations du Proche-Orient; Hors serie 1). Neuchâtel: Recherches et Publications.
- Khazadian, E. V. and Piotrovskii, B. B. 1992 'A cylinder seal with ancient Egyptian hieroglyphic inscription from the Metsamor gravesite', *Soviet Anthropology and Archaeology* 30: 67–74.
- Khazanov, A. M. 1984 *Nomads and the Outside World*. Cambridge: Cambridge University Press.
- Khosravi, S., Alibaigi, S., and Aali, A. 2013 'The Abharrūd Basin in the Chalcolithic period: Revision of the Dālmā settlements at the north-western borders of the Iranian central plateau', *Archäologische Mitteilungen aus Iran und Turan 45*: 99–110.
- Kiguradze, T. and Sagona, A. 2003 'On the origins of the Kura-Araxes cultural complex', in *Archaeology in the Borderlands: Investigations in Caucasia and Beyond*, edited by A. T. Smith and K. S. Robinson, pp. 38–94. Los Angeles: Cotsen Institute Press.
- Kiguradze, T. V. 1976 *Periodizatsiia Rennezemledelcheskoi Kultury Vostochnogo Zakavkazia*. Tbilisi: Metsniereba.
- . 1986 *Neolithische Siedlungen von Kvemo-Kartli, Georgien* (Materialien zur Allgemeinen und Vergleichenden Archäologie 29). Munich: C. H. Beck.
- . 2000 'The Chalcolithic-Early Bronze Age transition in the eastern Caucasus', in *Chronologies des pays du Caucase et de l'euphrate aux IV^e–III^e millénaires: Actes du colloque d'Istanbul, 16–19 décembre 1998*, edited by C.

- Marro and H. Hauptmann, pp. 321–328. Paris: De Boccard.
- Kiguradze, T. V. and Menabde, M. V. 2004 ‘The Neolithic of Georgia’, in *A View from the Highlands: Archaeological Studies in Honour of Charles Burney*, edited by A. Sagona, pp. 345–398. Leuven: Peeters.
- Kikodze, Z. K. and Koridze, I. D. 1978 ‘Kratkii otchet rabot, provedennykh v 1977 g. Paravanskoi razvedochnoi ekspeditsiei’, *Arkheologicheskie ekspeditsii Gos. muzeia Gruzii AN GSSR* 6: 19–26. (In Georgian).
- Kikvidze, Ia. A. 1972 *Khizanaantgoris Adrebrinjaos Khanis Namosakhlari*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- King, T. F. 2008 *Cultural Resource Laws & Practice: An Introductory Guide* (3rd ed). Walnut Creek, CA: AltaMira Press.
- Kingsley, C. 1980 [1856] *The Heroes, or, Greek Fairy Tales for My Children*. London: Macmillan and Company Ltd. [Facsimile edition]
- Kintigh, K. W., Altschul, J. H., Beaudry, M. C., Drennan, R. D., Kinzig, A. P., Kohler, T. A., Limp, W. F., Maschner, H. D. G., Michener, W. K., Pauketat, T. R., Peregrine, P., Sabloff, J. A., Wilkinson, T. J., Wright, H. T., and Zeder, M. A. 2014 ‘Grand challenges for archaeology’, *Proceedings of the National Academy of Sciences of the United States of America* 111 (3): 879–880.
- Kipiani, G. 1997 ‘Berikldeebi: galavani da tadzari’, in *Saqartvelos sakhelmtsipo muzeumis moambe (Bulletin of the Georgian State Museum)* 42-B: 13–57.
- Klein, R. 2005 ‘Hominin dispersals in the Old World’, in *The Human Past: World Prehistory and the Development of Human Societies*, edited by C. Scarre, pp. 84–123. London: Thames and Hudson.
- Kleiss, W. and Kroll, S. 1979 ‘Ravaz und Yakhvali, zwei befestigte platze des 3. Jahrtausends’, *Archäologische Mitteilungen aus Iran* 12: 27–47.
- Klejn, L. S. 1977 ‘A panorama of theoretical archaeology’, *Current Anthropology* 8: 1–42.
- . 2001 ‘Russia’, in *Encyclopedia of Archaeology: History and Discoveries*, edited by T. Murray, pp. 1127–1145. Santa Barbara: ABC Clío.
- . 2012 *Soviet Archaeology: Trends, Schools, and History*. (Trans. R. Ireland and K. Windle). Oxford: Oxford University Press.
- Kohl, P. L. 1992 ‘The Transcaucasian “Periphery” in the Bronze Age: A preliminary formulation’, in *Resources, Power, and Interregional Interaction (Interdisciplinary Contributions to Archaeology)*, edited by E. M. Schortman and P. A. Urban, pp. 117–137. New York: Plenum Press.
- . 2007 *The Making of Bronze Age Eurasia*. Cambridge: Cambridge University Press.
- . 2009 ‘The Maikop singularity: The unequal accumulation of wealth on the Bronze Age Eurasian Steppe’, in *Social Complexity in Prehistoric Eurasia: Monuments, Metals and Mobility*, edited by B. K. Hanks and K. M. Linduff, pp. 91–104. Cambridge: Cambridge University Press.
- . 2012 ‘Homelands in the present and in the past: Political implications of a dangerous concept’, in *The Archaeology of Power and Politics in Eurasia: Regimes and Revolutions*, edited by C. W. Hartley, G. B. Yazicioglu, and A. T. Smith, pp. 147–156.
- Kohl, P. L. and Magomedov, R. G. 2014 ‘Early Bronze developments on the west Caspian coastal plain’, *Paléorient* 40(2): 93–114.
- Kohl, P. L. and Trifonov, V. 2014 ‘The prehistory of the Caucasus: Internal developments and external interactions’, in *The Cambridge World Prehistory*, edited by C. Renfrew and P. G. Bahn, pp. 1571–1595. Cambridge: Cambridge University Press.
- Kohn, M. and Mithen, S. 1999 ‘Handaxes: products of sexual selection?’, *Antiquity* 73: 518–526.
- Kökten, İ. K. 1947 ‘1945 Yilinda Türk Tarih Kurumu adina yapılan tarihöncesi arastirmaları’, *Bellesten* 11: 431–472.
- Korenevskii, S. N. 1974 ‘O metallicheskih toporakh maikopskoi kul’tury’, *Sovetskaia Arkheologiia* 3: 14–32.
- . 1981 ‘Vtul’chatye toporu – Oruzhie blizhnego boia epokhi srednei bronzu Severnogo Kavkaza’, in *Kavkaz i Sredniaia Aziia v drevnosti i srednevekov’e*, edited by B. A. Litvinskii, pp. 20–41. Moscow.
- . 1990 *Pamiatniki naseleniia bronzovogo veka tsentral’nogo Predkavkaz’ia*. Moscow: In-t arkheologii AN SSSR.
- . 1993 *Drevneishee osedloe naselenie na srednem Tereke*. Moscow: Ob-vo “Znanie” Rossii.
- . 1995 *Galiugai 1 – Poselenie Maikopskoi kul’tury: arkheologicheskie istochniki po probleme drevneiishikh zemledel’tsev i skotovodov na kavkazskoigranitse Perednei Azii i Vostochnoi Evropy*. Moscow: In-t arkheologii RAN.

- . 2004 *Drevneishie zemledel'tsy i skotovody Predkavkaz'ia (problemy vnutrennei tipologii i maikopsko-novosvobodnenskoi obshchnosti)*. Moscow: Nauka.
- . 2008a 'Sobremennye problemy izucheniia maikopskoi kul'tury', in *Arkheologiiia Kabkaza i Blizhnego Vostoka. Sbornikh k 80-letiiu Profesora R. M. Munchaeva*, pp. 71–122. Moscow: Taus.
- . 2008b 'Kinzhaly rannemaikopskogo tipa na Kavkaze', *Materialy i issledovaniia po arkheologii Severnogo Kavkaza* 9: 5–49.
- . 2010 'Große Kurgane der Majkop-Kultur. Arbeitsaufwand und kultische Aspekte bei ihrer Errichtung', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 59–73. Bonn: Dr Rudolf Habelt GmbH.
- . 2011 *Drevneyshii metall predkavkaz'ia. Tipologiyiia. Istoriko-kul'turnyi aspekt*. Moscow: Taus.
- Korenevskii, S. N. and Rostunov, V. L. 2004 'Bol'shie kurgany maikopskoi kul'tury y. c. Zamankul v Severnoi Osetii', in *Pamiatniki arkheologii i drevnego iskusstva Evrazii. Sbornik statei: pamiati Vitalia Vasil'evicha Völkova*, edited by A. N. Gei, pp. 146–167. Moscow, Tula: Gref and K.
- Korfmann, M. 1982 *Tilkitepe: Die ersten Ansätze prähistorischer Forschung in der östlichen Türkei. Istanbul Mitteilungen*, Beiheft 26. Tübingen: Wasmuth.
- Korfmann, M., Pizchelauri, K., Bertram, J.-K., and Kastl, G. with contributions by H. P. Uerpmann, M. Uerpmann, and E. Kvavadze. 2002 'Vorbericht zur 3. Grabungskampagne am Didi Gora im Jahre 1999. Mit einem Anhang zu den Auswertungsarbeiten im Jahre 2000 (Kachetien/Ostgeorgien)', *Studia Troica* 12: 467–500.
- Korfmann, M., Pizchelauri, K., and Jablonka, P. 1999 'Vorbericht zu den Ausgrabungen in der Siedlung Didi Gora, Ostgeorgien, 1997 und 1998', *Studia Troica* 9: 527–549.
- Koridze, D. L. 1965 *K Istorii Kolkhskoi Kultury*. (In Georgian with Russian summary).
- Koridze, I. 1995 'Der Kurgan 4 von Berikldeebi', in *Unterwegs zum Goldenen Vlies: Archäologische Funde aus Georgien*, edited by A. Miron and W. Orthmann, pp. 109–110. Saarbrücken: Saarlandischer Kulturbesitz.
- Koridze, I. and Palumbi, G. 2008 'Kura-Araxes Tombs at Aradeti Orgora', in *Archaeology in Southern Caucasus: Perspectives from Georgia (Ancient Near Eastern Studies, Supplement 19)*, edited by A. Sagona and M. Abramishvili, pp. 126–152. Leuven: Peeters.
- Korobkova, G. F. 1979 'Drevneyshiye zemle-kopnye orudiya iz Arukhlo I', *Materialy po arkheologii gruzii i Kavkaza* 7: 97–100.
- Köroğlu, K. 2001 'Urartu krallığı'nın kuzey yayını ve Qulha ülkesinin tarihi coğrafyası', *Bulleten* 64: 717–747.
- Koşay, H. Z. 1976 *Keban Projesi, Pulur Kazısı 1968–70* (METU Keban Project Publications, Series 3, No. 1). Ankara: Middle Eastern Technical University. (In Turkish and English).
- Koşay, H. Z. and Turfan, K. 1959 'Erzurum-Karaz kazısı raporu', *Bulletin* 23: 349–413.
- Kossack, G. 1983 'Tli Grab 85. Bemerkungen zum Beginn des skythenzeitlichen Formenkreisesim Kaukasus', *Beiträge zur Allgemeinen und Vergleichenden Archäologie* 5: 89–186.
- Kotova, N. S. 2003 *Neolithization in Ukraine* (British Archaeological Reports 1109). Oxford: British Archaeological Reports.
- Kotovitch, V. G., Kotovich, V. M., and Magomedov, S. M. 1980 'Utamyshskie kurgany', in *Severnyi Kavkaz v Drevnosti i v Srednie Veka*, edited by V. I. Markovin, pp. 43–61. Moscow: Nauka.
- Kozenkova, V. I. 1982 *Tipologii i khronologicheskaiia klassifikatsiia predmetov kobanskoi kul'tury. vostochnyi variant* (Arkheologiiia SSSR B2–5). Moscow: Izd-vo "Nauka".
- . 1989 *Kobanskaia kul'tura. Zapadnyi variant* (Arkheologia SSSR, B2–6, edited by V. G. Petrenko). Moscow: Izd-vo Nauka.
- . 1992 *Seržen'-Jurt: ein Friedhof der späten Bronze-und frühen Eisenzeit im Nordostkaukasus* (Materialien zur allgemeinen und vergleichenden Archäologie, Bd. 48). Mainz am Rhein: Philipp von Zabern.
- . 1995 *Oruzhe voinskoe i konskoe snariazhnie plemen kobanskoi Kul'tury: Sistematizatsiia i khronologiiia. Zapadnyi variant* (Arkeologiiia Rossii, B2–5). Moscow: Rossiiskaia akademiia nauk, In-t arkheologii.
- . 1996 *Kul'turno-istoricheski protsessy na Severnom Kavkaze epokhu pozdnei bronzy i v rannem zheleznom veke: uzlovyie problemy proiskhozhdeniia i razvitiia kobanskoi kul'tury*.

- Moscow: Rossiiskaia akademiia nauk, In-t arkheologii.
- . 1998 *Material'naia osnova byta kobanskikh plemen. Zapadnyi variant* (Arkeologiiia Rossii, B2–5). Moscow: Rossiiskaia akademiia nauk, In-t arkheologii.
- . 2001 *Poselok-ubezhishche kobanskoi kul'tury u aula Serzhen'-Iurt v Chechne kak istoricheskii istochnik (Severnyi Kavkaz)*. Moskva: Izd-vo Nauka.
- . 2004 *Biritualizm v pogrebal'nom obryade drevnikh 'kobantsev'. Mogil'nik Tereze kontsa XII–VIII v. do n.e.* (Materialy po izucheniyu istoriko-kul'turnogo naslediiia Severnogo Kavkaza, 5). Moscow: Pamyatniki istoricheskoi mysli.
- Kozlowski, S. K. 1996 'The Trialetian "Mesolithic" industry of the Caucasus, Transcaucasia, Western Anatolia, and the Iranian Plateau', in *Neolithic Chipped Stone Industries of the Fertile Crescent, and Their Contemporaries in Adjacent Regions: Proceedings of the Second Workshop on PPN Chipped Lithic Industries, Institute of Archaeology, Warsaw University, 3rd–7th April 1995* (Studies in Early Near Eastern Production, Subsistence, and Environment 3), edited by S. K. Kozlowski and H. G. K. Gebel, pp. 161–170. Berlin: Ex Oriente.
- Krichevskii, E. Iu. and Kruglov, A. P. 1941 'Neolithicheskoe poselenie bliz g. Nalchika', *Materialy i Issledovaniia po Arkheologii SSSR* 3: 51–63.
- Kriviskii, V. V., Nechaeba, L. G., and Chlenova, N. L. 1976 'Issledovanie krematorii epokhi pozdnei bronzy v severnoi osetii', *Arkheologicheskie Otkrytiia* 1975: 131.
- Kroll, S. 2005 'Early Bronze Age settlement patterns in the Orumiye Basin', *Archäologische Mitteilungen aus Iran und Turan* 37: 115–132.
- Kruglov, A. P. 1958 'Severo-vostochnii Kavkaz vo II–I tysiacheletiiakh do N. E.', *Materialy i Issledovaniia po Arkheologii SSSR* 68: 7–146.
- Kruglov, A. P., Piotrovskii, B. B., and Podgaetskii G. V. 1941 'Mogil'nik v g. Nal'chike', *Materialy i issledovaniia po arkheologii SSSR* 3: 67–146.
- Kruglov, A. P. and Podgaetskii G. V. 1941 'Dolinskoe poselenie u g. Nal'chika', *Materialy i Issledovaniia po Arkheologii SSSR* 3: 147–212.
- Krupnov, E. I. 1951 'Materialy po arkheologii Severnoi Osetii dokovanskogo perioda (Opyt periodizatsii pamiatnikov epokhi eneolita i bronzy)', *Materialy i issledovaniia po arkheologii SSSR* 23: 17–74.
- . 1957 *Drevniaia istoriia i kul'tura Kabardy*. Moscow: Akademiia nauk SSSR.
- . 1960 *Drevniaia Istoriia Severnogo Kavkaza*. Moscow: Nauka.
- Krupnov E. I. and Merpert N. Ia. 1963 'Kurgany u stanitsy Mekenskoi', in *Drevnosti Checheno-Ingushetii*, edited by E. I. Krupnov, pp. 9–48. Moscow: Izd-vo Akademii nauk SSSR.
- Kuftin, B. A. 1940 'K voprosu o rannikh stadiakh bronzovoi kultury na territorii Kavkaza', *Kratkie soobshcheniia o dokladakh i polevykh issledovaniiax Instituta Istorii* 8: 5–35.
- . 1941 *Arkheologicheskie raskopki v Trialeti*. Tbilisi: Izdatelstvo Akademii Nauk Gruzinskoi SSR. (In Russian with Georgian and English summaries).
- . 1944a 'K voprosu o drevneishikh korniakh gruzinskoi kultury na Kavkaze po dannym arkheologii', *Vestnik Gosudarstvennogo Muzeia Gruzii* 12–V: 291–440. (In Russian with Georgian summary).
- . 1944b 'Urartskii 'kolumbarii' v podoshvy Ararata i kuro-arakskii eneolit', *Vestnik Gosudarstvennogo Muzeia Gruzii* 13–V: 1–172. (In Russian with Georgian and English summaries).
- . 1948 *Arkheologicheskie raskopki 1947 goda v Tsalkinskom raione*. Tbilisi: Akademiia Nauk Gruzinskoi SSR.
- . 1949 *Arkheologicheskaia marshrutnaia ekspeditsiia 1945 goda v Iugo-Osetiiu i Imeretiiu*. Tbilisi: AN Gruzii SSSR, Gos. Muzei Gruzii.
- . 1950 *Materialy k arkheologii Kolkhidy*, Vol. 2. *Arkheologicheskie izyskaniia v Rionskoinizmennosti i na Chernomorskom poberezh'e*. Tbilisi: Tekhnika da shroma.
- Kuftin, B. A. and Fields, H. 1946 'Prehistoric culture sequence in Transcaucasia', *Southwestern Journal of Anthropology* 2: 340–360.
- Kushnareva, K. Kh. 1954 'Pamiatniki mednogo veka v nagornom Karabakhe', *Sovetskaia Arkheologiiia* 20: 165–179.
- . 1959 'Poselenie Epokhi Bronzy na kholme Uzerlik-Tepe okolo Agdama', *Materialy i issledovaniia po arkheologii SSSR* 67: 388–430. (French summary).
- . 1960 'Tazakendskii mogilnik v Armenii', *Sovetskaia Arkheologiiia* 1: 137–147.
- . 1965 'Novye dannye o poselenii Uzerlik-Tepe okolo Agdama', *Materialy i issledovaniia po arkheologii SSSR* 125: 74–102. (French summary).
- . 1983 'K probleme vydeleniia arkheologicheskikh kultur perioda srednei bronzy

- na Iuzhnom Kavkaze', *Kratkie soobshcheniia Instituta Arkheologii* 176: 9–23.
- . 1984 'K probleme Kavkazskogo mesolita', *Istoriko-filologicheskii zhurnal* 3: 45–58. (Armenian summary).
- . 1994 'Karmirberdskaia (Tzakendenskaia) kultura', in *Ranniaia i sredniaia bronza Kavkaza* (Arkheologiia Vol. 20), edited by K. Kh. Kushnareva and V. I. Markovin, pp. 106–117. Moscow: Nauka.
- . 1997 *The Southern Caucasus in Prehistory: Stages of Cultural and Socioeconomic Development from the Eighth to Second Millennium B.C.* Philadelphia: The University Museum, University of Pennsylvania.
- Kushnareva, K. Kh. and Chubinishvili, T. N. 1970 *Drevnie kul'tury iuzhnogo Kavkaza (V–III tys. do N. E.)*. Leningrad: Nauka. (In Russian with English summary).
- Kvavadze, E. 2006 'The use of fossilized honey for palaeoecological reconstruction: A palynological study of archaeological material from Georgia', in *Proceedings of the 11th All-Russian Palynological Conference, Palaeontological Journal*, vol. 40, suppl.5, edited by M. P. Maslova, pp. 595–604.
- Kvavadze, E., Bar-Yosef, O., Belfer-Cohen, A., Boaretto, E., Jakeli, N., Matskevich, Z., and Meshveliani, T. 2009 '30,000-year-old wild flax fibers', *Science* 325 (5946): 1359.
- Kvavadze, E., Gambashidze, I., Mindiasvili, G., and Gogochuri G. 2007b 'The first find in southern Georgia of fossil honey from the Bronze Age, based on palynological data', *Vegetation History and Archaeobotany* 16: 399–404.
- Kvavadze, E., Jalabadze, M., and Sagona, A. 2016 'Tetritskaro (Nadarbazevi) burial mound No2: Bread, rusk and the Bedeni period', in *Proceedings of the International Workshop, 'Caucasus and the Aegean World: Cultural interaction in the Bronze Age'* (Tbilisi, September 2016), edited by G. Narimanishvili. Tbilisi: Georgian National Museum.
- Kvavadze, E. and Kakhiani, K. 2010 'Palynology of the Paravani burial mound (Early Bronze Age, Georgia)', *Vegetation History and Archaeobotany* 19 (5/6): 469–478.
- Kvavadze, E., Kakhiani, K., Pataridze, N., and Connor, S. 2007a 'The results of palynological investigations of Paravani Kurgan', *Proceedings of the Georgian Academy of Sciences, Biological Series B* 5(2): 97–107.
- Kvavadze, E., Sagona, A., Chichinadze, M., Jalabadze, M., and Koridze, I. 2015 'The hidden side of ritual: New palynological data from Early Bronze Age Georgia, the Caucasus', *Journal of Archaeological Science: Reports* 2: 235–245.
- Kvavadze E., Shatberashvili Z., Amiranashvili J., and Arabuli G. 2004 'Palynological investigations of two burial mounds of the Middle Bronze Age of Tkemlara (southern Georgia)', *Acta Palaeobotanica* 44: 267–279.
- Lamb, W. 1954 'The culture of north east Anatolia and its neighbours', *Anatolian Studies* 4: 21–42.
- Landsberger, B. 1967 'Über Farben im Sumerisch-akkadischen', *Journal of Cuneiform Studies* 21: 139–173.
- Laneri, N. (ed.) 2007 *Performing Death: Social Analyses of Funerary Traditions in the Ancient Near East and the Mediterranean*. Oriental Institute Seminars, 3. Chicago: The Oriental Institute of the University of Chicago.
- Lavrov, L. I. 1960 'Dol'meny Severo-Zapadnogo Kavkaza', *Trudy Abkhazskii Instituta iazyka, literatury i istorii imeni D. I. Gulia* 31: 101–178. Sukhumi.
- Leonova E. V. 2009 'O khronologii i periodizatsii pozdnepleystotsenovykh – rannegolotsenovykh pamyatnikov Severo-Zapadnogo Kavkaza (po materialam poslednikh issledovaniy v Gubskom ushel'ye)', *Rossiiskaia Arkheologiia* 4: 93–106.
- . 2014a 'Investigation of Mesolithic and Upper Paleolithic multilayer sites in the north-west Caucasus', *The Dolní Věstonice Studies* 20 (Mikulov Anthropology Meeting 2014): 43–48. Brno: Academy of Sciences of the Czech Republic, Institute of Archaeology.
- . 2014b 'Predvaritel'nie resul'taty novykh issledovanni peshchery dvoinaia v Dybskoi ushel'e', *Kratkie soobshcheniya* 236: 11–15.
- Leskov, A. M. 2008 *The Maikop Treasure*. Philadelphia: University of Pennsylvania, Museum of Archaeology and Anthropology.
- Lewis, I. M. 2003 *Ecstatic Religion: A Study of Shamanism and Spirit Possession*. Routledge: London.
- Lewis-Williams, D. 2002 *The Mind in the Cave: Consciousness and the Origins of Art*. London: Thames and Hudson.
- Liagre, J., Gasparyan, B., Ollivier, V., and Nahapetyan, S. 2006 'Angeghakot1 (Armenia) and the identification of the Mousterian cultural facies of "Yerevan Points" type in the southern Caucasus', *Paléorient* 32/1: 15–18.
- Licheli, V. and Rusishvili, R. 2008 'A Middle Bronze Age burial at Atsquri', in *Archaeology in*

- the Southern Caucasus: Perspectives from Georgia, edited by A. Sagona and M. Abramishvili, pp. 205–247 (Ancient Near Eastern Studies Supplement 19). Leuven: Peeters.
- Lichter, C. (ed.) 2005 *How Did Farming Reach Europe? Anatolia-European Relations from the Second Half of the 7th through the First Half of the 6th Millennium CAL BC. Proceedings of the International Workshop, Istanbul, 20–22 May 2004* (Byzas 2). Istanbul: Deutsches Archäologisches Institut.
- Lindsay, I. and Greene, A. 2013 ‘Sovereignty, mobility, and political cartographies in Late Bronze Age southern Caucasia’, *Journal of Anthropological Archaeology* 32: 691–712.
- Lindsay, I., Leon, J., Smith, A. T., and Wiktorowicz, C. 2014 ‘Geophysical survey at Late Bronze Age fortresses: Comparing methods in the diverse geological contexts of Armenia’, *Antiquity* 88: 578–595.
- Lindsay, I., Minc, L., Descantes, C., Speakman, R. J., and Glascock, M. D. 2008 ‘Exchange patterns, boundary formation, and sociopolitical change in Late Bronze Age Southern Caucasia: Preliminary results from a pottery provenance study in northwestern Armenia’, *Journal of Archaeological Science* 35: 1673–1682.
- Lindsay, I. and Smith, A. T. 2006 ‘A history of archaeology in the Republic of Armenia’, *Journal of Field Archaeology* 31: 165–184.
- Lioubine, V. P. 2002 *L’Acheuléen du Caucase* (ERAUL 93). Liège: Université de Liège.
- Lioubine, V. P. and Beliaeva, E. V. 2004 ‘Acheulian Industry of the Kudaro I Cave: Raw material diversity and characteristics of the assemblage’, in *Section 4: Premiers hommes et Paléolithique Inférieur. General Sessions and Posters. Acts of the XIVth UISPP Congress, University of Liège, Belgium, 2–8 September 2001*, edited by Le Secrétariat du Congrès (British Archaeological Reports 1272), pp. 21–28. Oxford: Archaeopress.
- Lisiecki, L. E. and Raymo, M. E. 2005 ‘A Pliocene–Pleistocene stack of 57 globally distributed benthic $\delta^{18}\text{O}$ records’, *Paleoceanography* 20, PA 1003, doi: 10.29/2004PA001071
- Lisitsina, G. N. 1978 ‘Main types of ancient farming on the Caucasus – On the basis of palaeoethnobotanical research’, *Ber. Deut. Bot. Ges.* 91: 47–57.
- Lisitsina, G. N. and Prishchepenko, L. V. 1977 *Paleoetnobotanicheskie nakhodki Kavkaza i blizhnego vostoka*. Moscow: Nauka.
- Littauer, M. A. and Crouwel, J. H. 1979 *Wheeled Vehicles and Ridden Animals in the Ancient Near East*. Leiden: Brill.
- Liubin, V. P. 1966 ‘Pervye sredeniia o mesolite gornogo Kavkaza (Osetia)’, in *U Istokob Drevnikh Kul’tur*, *Materialy i issledovaniia po arkhologii SSSR* 26, pp. 155–163. Moscow: Izdatel’stvo Akademii Nauk SSR.
- . 1977 *Mustierskie kul’turi Kavkaza*. Leningrad: Nauka.
- . 1984 ‘Ranii Paleolit Kavkaza’, in *Paleolit SSSR* (Arkheologiiia SSSR), edited by P. I. Boriskovski, pp. 45–93. Moscow: Izd-vo Nauka.
- . 1989 ‘Paleolit Kavkaza’, in *Paleolit Kavkaza in Severnoi Azii*, edited by P. I. Boriskovski, pp. 9–142. Leningrad: Izd-vo Nauka.
- . 2002 *L’Acheuléen du Caucase* (ERAUL 93). Liège: Université de Liège.
- Ljubin, V. P. and Bosinski, G. 1995 ‘The earliest occupation of the Caucasus region’, in *The Earliest Occupation of Europe: Proceedings of the European Science Foundation Workshop at Tautavel (France), 1993*, edited by W. Roebroeks and T. van Kolfschoten, pp. 207–253. Leiden: University of Leiden Press.
- Lo Schiavo, F. 2006 ‘Pithecan connections’, in *Across Frontiers: Etruscan, Greeks, Phoenicians & Cypriots: Studies in Honour of David Ridgway & Francesca Romana Serra Ridgway* (Accordia Specialist Studies on the Mediterranean, 6), edited by E. Herring, I. Lemos, F. Lo Schiavo, L. Vagnetti, R. Whitehouse, and J. Wilkins, pp. 249–265. London: Accordia Research Institute, University of London.
- . 2010 *Le Fibule dell’Italia Meridionale e della Sicilia dall’eta del Bronzo Recente al VI secolo a.c.* (Prähistorische Bronzefunde, 14). Stuttgart: Franz Steiner Verlag.
- Longford, C., Drinnan, A., and Sagona, A. 2009 ‘Archaeobotany of Sos Höyük, northeast Turkey’, in *New Directions in Archaeological Science* (Terra Australis 28), edited by A. Fairbairn, S. O’Connor, and B. Marwick, pp. 121–136. Canberra: Australian National University E Press.
- Lordkipanidze, D., De Léon, M. S. P., Margvelashvili, A., Rak, Y., Rightmire, G. P., Vekua, A., and Zollikofer, C. P. E. 2013, ‘A complete skull from Dmanisi, Georgia, and the evolutionary biology of early Homo’, *Science* 342: 326–331.

- Lordkipanidze, D., Jashashvili, T., Vekua, A., Ponce de Leon, M. S., Zollikofer, C. P., Rightmire, G. P., Pontzer, H., Ferring, R., Oms, O., Tappen, M., Bukhsianidze, M., Agusti, J., Kahlke, R., Kiladze, G., Martinez-Navarro, B., Mouskhelishvili, A., Nioradze, M., and Rook, L., 2007, 'Postcranial evidence from early Homo from Dmanisi, Georgia', *Nature* 449 (7160): 305–310.
- Lordkipanidze, O. 1991 *Archäologie in Georgien: Von der Altstein zum Mittelalter*. Weinheim: VCH Acta humaniora.
- . 2001a 'The Golden Fleece: Myth, euhemeristic, explanation and archaeology', *Oxford Journal of Archaeology* 20: 1–38.
- . 2001b 'Gandzebi kolkhur brinjaos kulturashi (funccis definiciisa da kulturul-sociologiyuri interpretaciis cda) / Hoards in Colchian Bronze culture: Their role and purpose', *Dziebani: The Journal of the Centre for Archaeological Studies of the Georgian Academy of Sciences*. Supplement VI. pp. 178–194. (In Georgian).
- Lyonnet, B. 2007a 'Introduction', in *Les cultures du Caucase (VIe-IIIe millénaires avant notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 10–19. Paris: CNRS Editions.
- . 2007b 'La culture de Maikop, la Transcaucasie, l'Anatolie orientale et le Proche-Orient: relations et chronologie', in *Les cultures du Caucase (VIe-IIIe millénaires avant notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 133–161. Paris: CNRS Editions.
- . 2014 'The Early Bronze Age in Azerbaijan in the light of recent discoveries', *Paléorient* 40 (2): 115–130.
- Lyonnet, B., Akhundov, T., Almamedov, K., Bouquet, L., Courcier, A., Jellilov, B., Huseynov, F., Loute, S., Makharadze, Z., and Reynard, S. 2008 'Late Chalcolithic kurgans in Transcaucasia. The cemetery of Soyuq Bulaq (Azerbaijan)', *Archäologische Mitteilungen aus Iran und Turan* 40: 27–44.
- Lyonnet, B. and Guliyev, F. 2010 'Recent discoveries on the Neolithic and Chalcolithic of Western Azerbaijan', *Türkiye Bilimler Akademisi Arkeoloji Dergisi* 13: 219–228.
- Lyonnet, B., Guliyev, F., Bouquet, L., Bruley-Chabot, G., Samzun, A., Pecqueur, L., Jovenet, E., Baudouin, E., Fontugne, M., Raymond, P., Degorre, E., Astruc, L., Guilbeau, D., Le Dosseur, G., Benecke, N., Hamon, C., Poulmarc'h, M., Courcier, A. 2016 'Mentesh Tepe, an early settlement of the Shomu-Shulaveri culture in Azerbaijan', *Quaternary International* 395: 170–180.
- Lyonnet, B., Guliyev, F., Helwing, B., Aliyev, T., Hansen, S., and Mirtskhulava, G., with contributions by L. Astruc, K. Bastert-Lamprichs, W. Bebermeier, F. Becker, N. Benecke, L. Bouquet, G. Bruley-Chabot, A. Courcier, M. B. D'Anna, A. Decaix, J. Fassbinder, M. Fontugne, F. Geitel, A. Goren, C. Hamon, J. Koch, G. Le Dosseur, A. Lincot, R. Link, R. Neef, D. Neumann, V. Ollivier, P. Raymond, A. Ricci, A. Samzun, S. Schorr, F. Schlütz, L. Shillito, M. Ullrich and J. Wahl, 2012 'Ancient Kura 2010–2011: The first two seasons of joint field work in the southern Caucasus', *Archäologische Mitteilungen aus Iran und Turan* 44: 1–190.
- Mackie, C. J. 2001 'The earliest Jason. What's in a name?', *Greece & Rome* 48.1: 1–17.
- Magomedov, R. G. 1991a 'K voprosu o iugovostochnoy granitse rasprostraneniya maykopskoy kul'tury', in *Maykopsky fenomen v drevney istorii Kavkaza i Vostochnoy Yevropy*, edited by V. A. Trifonov. Leningrad: Leningrad Department of the Archaeological Institute.
- . 1991b. 'O kompleksakh maikopskoi kul'tury na territorii Dagestana', in *Gory i Ravniny Severo-vostochnogo Kavkaza v Drevnosti i Srednie Veka*, edited by O. M. Davudov, pp. 13–38. Makhachkala: Dagestan Scientific Centre, G. Tsadasy Scientific Institute of History, Language and Literature.
- . 2006 'The Kura-Araxes 'culture' in the north-eastern Caucasus. Problems in its identification and chronology', in *Beyond the Steppe and the Sown. Proceedings of the 2002 University of Chicago Conference on Eurasian Archaeology* (Colloquia Pontica 13), edited by D. L. Peterson, L. M. Popova, and A. T. Smith, pp. 142–159. Leiden: Brill.
- Maisuradze, V. G. and Inanishvili, G. V. 2006 'The Shilda sanctuary, a cult monument in Kakhetia, Republic of Georgia', *Anthropology & Archeology of Eurasia* 45.1: 29–48.
- Makharadze, Z., Kalandadze, N., and Murvanidze, B. 2016 *Ananauri Big Kurgan 3*. Tbilisi: Georgian National Museum.
- Makharadze, Z. and Murvanidze, B. 2014a 'Ananauri No. 3, big kurgan', *Dziebani* 22: 50–68.

- . 2014b 'Kurgan "Tchintchrianis Gora"', *Dziebani* 22: 69–80.
- Makharadze, Z. E. 1994 *Poselenie kuro-araksskoi kul'tury Tsikhiagora*. Tbilisi: Metsniereba. (In Georgian with Russian and English summaries).
- . 2007 'Nouvelles données sur le Chalcolithique en Géorgie orientale', in *Les cultures du Caucase (VI-III^e millénaires av. notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 123–131. CNRS Éditions: Paris.
- . 2008 'The settlement of Tsikhiagora and the Early Barrows at Kavtiskhevi', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 63–104. Leuven: Peeters.
- . 2015 'Kurgane der frühbronzezeit in Ostgeorgien', in *Der Kaukasus im Spannungsfeld zwischen Osteuropa und Vorderem Orient: Dialog der Kulturen, Kultur des Dialoges (im Gedenken an den 140. Geburtstag von Alexander A. Miller)*. Internationale Fachtagung für die Archäologie und Humboldt-Kolleg (5.–8. Oktober 2015, Sankt Petersburg), pp. 109–111. Saint Petersburg: Russische Akademie der Wissenschaften Institut für Geschichte der Materiellen Kultur, Deutsches Archäologisches Institut Eurasien-Abteilung, and Staatliche Eremitage.
- Makhmudov, F. 2008 *Kul'tura Iugo-Vostochnogo Azerbaidzhana v epokhu bronzы i rannego zheleza*. Baku: Nafta.
- Makhmudov, F. R., Munchaev, R. M., and Narimanov, I. G. 1968 'O drevneishei metallurgii Kavkaza', *Sovetskaiia Arkheologiiia* 4: 16–26.
- Makhmudov, F. R. and Narimanov, I. G. 1972 'Raskopki Alikemek-Tepesi / Excavations of Alikemektepesi', *Arkheologicheskie Otkrytiia* 1971: 480–481.
- . 1974 'Poselenie Alikemek-Tepesi', *Arkheologicheskie Otkrytiia* 1973: 454–455.
- Mallory, J. P. 1989 *In Search of the Indo-Europeans*. London: Thames & Hudson.
- . 1990 'Social structure in the Pontic-Caspian Eneolithic: A preliminary review', *Journal of Indo-European Studies* 18: 15–57.
- Mallory J. P. and Adams D. Q. 2006 *The Oxford Introduction to Proto-Indo-European and the Proto-Indo-European World*. Oxford: Oxford University Press.
- Mandeville, Sir John 2005 *The Travels of Sir John Mandeville*. Translated by C. W. R. D. Moseley. London: Penguin.
- Manning, S. W. and Kromer, B. 2011 'Radiocarbon dating Iron Age Gordion, and the Early Phrygian destruction in particular', in *The New Chronology of Iron Age Gordion*, edited by C. B. Rose and G. Darbyshire, pp. 123–153. Philadelphia: University Museum of Archaeology and Anthropology.
- Mansfeld, G. 1996 'Der Tqisbolo-gora. Eine Siedlungsgrabung als georgisch-deutsches Gemeinschaftsprojekt in der Republik Georgien', *Antike Welt* 27 (5): 365–380.
- Maran, J. 2004 'Kulturkontakte und Wege der Ausbreitung der Wägentechnologie im 4. Jahrtausend v. Chr.', in *Rad und Wagen. Der Ursprung einer Innovation; Wagen im Vorderen Orient und Europa. Ausstellung vom 28. März bis 11. Juli 2004* (Beiheft der Archäologische Mitteilungen aus Nordwestdeutschland 40), edited by M. Fansa and S. Burmeister, pp. 429–442. Mainz am Rhein: Verlag Philipp von Zabern.
- Marco Polo 1908 *The Travels of Marco Polo* (Everyman's Library, no. 306). Introduction by John Masefield. London: J. M. Dent & Sons Ltd.
- Margalitadze, N. A. 1995 *Istoriia golotsenovoi rastitel'nosti Gruzii*. Tbilisi: Metsniereba.
- Markovin, V. I. 1961 'Drevnie izobrazheniia na ckalakh v raione g. Buinaksk', in *Materialy po arkheologii Dagestana*, Vol. 2, edited by G. D. Daniialov, D. M. Ataev, S. Sh. Gadzhieva, B. G. Kotovich, and M. I. Pikul', pp. 124–134. Makhachkala: Dagestanskoe knizhnoe izdatel'stvo.
- . 1978 *Dol'meny Zapadnogo Kavkaza*. Moscow: Nauka.
- . 1990 'Sporniye voprosy v etnogeneticheskom izuchenii drevnostei severnogo Kavkaza (maikopskaia kultura)', *Sovetskaiia Arkheologiiia* 4: 106–122.
- . 1994a 'Dol'meny Zapadnogo Kavkaz', in *Arkheologiiia: Epokha bronzы Kavkaza i Srednei Azii. Ranniia i sredniaia bronza Kavkaza*, edited by K. Kh. Kushnareva and V. I. Markovin, pp. 226–253. Moscow: Nauka.
- . 1994b 'Severo-Vostochnii Kavkaz v epokhu bronzы', in *Arkheologiiia: Epokha bronzы Kavkaza i Srednei Azii. Ranniia i sredniaia bronza Kavkaza*, edited by K. Kh. Kushnareva and V. I. Markovin, pp. 287–333. Moscow: Nauka.

- . 1999 'Kurgane der Bronzezeit auf dem Konstantinovka-Plateau bei Pjatigorsk (Nordkaukasus)', *Jahresschrift für Vorgeschichte* 81: 119–163.
- Marro, C. 2007 'Upper-Mesopotamia and Transcaucasia in the Late Chalcolithic period (4000–3500 BC)', in *Les cultures du Caucase (VI^e–III^e millénaires avant notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 11–19. Paris: CNRS Éditions.
- . 2008 'Late Chalcolithic ceramic cultures in the Anatolian Highlands', in *Ceramics in Transitions: Chalcolithic Through Iron Age in the Highlands of the Southern Caucasus and Anatolia*, edited by K. S. Robinson and A. Sagona, pp. 9–37. Leuven: Peeters.
- . 2010 'Where did Late Chalcolithic Chaff-Faced Ware originate? Cultural dynamics in Anatolia and Transcaucasia at the dawn of urban civilization (ca. 4500–3500 BC)', *Paléorient* 36.2: 35–55.
- . 2012 'Is there a Post-Ubaid culture? Reflections on the transition from the Ubaid to the Uruk periods along the Fertile Crescent and beyond', in *After the Ubaid. Interpreting Change from the Caucasus to Mesopotamia at the Dawn of Urban Civilization (4500–3500 BC)* (Varia Anatolica 27), edited by C. Marro Paris: De Boccard.
- Marro, C., Bakhshaliyev, V., and Ashurov, S. 2009 'Excavations at Ovçular Tepesi (Nakhchivan, Azerbaijan). First preliminary report: The 2006–2008 seasons', *Anatolia Antiqua* 17: 31–87.
- . 2011 'Excavations at Ovçular Tepesi (Nakhchivan, Azerbaijan). Second preliminary report: The 2009–2010 seasons', *Anatolia Antiqua* 17: 53–100.
- Marro, C., Bakhshaliyev, V., and Berthon, R. 2014 'On the genesis of the Kura-Araxes phenomenon: New evidence from Nakhchivan (Azerbaijan)', *Paléorient* 40.2: 131–154.
- . 2015 'A reply to G. Palumbi and C. Chataigner', *Paléorient* 41.2: 157–162.
- Marro, C., Bakhshaliyev, V., and Sanz, S. 2010 'Archaeological investigations on the salt mine of Duzdağı (Nakchevan, Azerbaijan)', *Türkiye Bilimler Akademisi Arkeoloji Dergisi (TÜBA-AR)* 13: 229–244.
- Marro, C. and Özfirat, A. 2003 'Pre-classical survey in eastern Turkey. First preliminary report: The Ağrı Dağı (Mount Ararat) region', *Anatolia Antiqua* 11: 385–422.
- . 2004 'Pre-classical survey in eastern Turkey. Second preliminary report: The Erciş region', *Anatolia Antiqua* 12: 227–265.
- . 2005 'Pre-classical survey in eastern Turkey. Third preliminary report: Doğubeyazıt and the eastern shore of Lake Van', *Anatolia Antiqua* 13: 319–356.
- Martin, L., and Russell, N. 2000 'Trashing rubbish', in *Towards Reflexive Method in Archaeology: The Example at Çatalhöyük*, edited by I. Hodder, pp. 57–69 (McDonald Institute Monographs). Cambridge: McDonald Institute for Archaeological Research.
- Martirosian, A. A. 1964 *Armenia v epokhu bronzi i rannego zheleza*. Erevan: Akademii Nauk Armianskoi SSR.
- . 1969 *Poseleniia i mogil'niki epokhi pozdnei bronzy* (Arkheologicheskie Pamiatniki Armenii 2. Pamiatniki Epokhi Bronzy). Erevan: Akademii Nauk Armianskoi SSR.
- Martirosian, A. A. and Israelian A. P., 1971 *Naskal'nye izobrazheniia Gegamskikh* (Arkheologicheskii Pamiatniki Armenii, Vol. 6). Yerevan: AN Armenian SSR. (In Armenian with Russian summary).
- Martirosian, A. A. and Mnatsakanian, A. O. 1973 'Prirevanskii klad Drevnei Bronzy', *Kratkie Soobshcheniia Instituta Arkheologii* 134: 122–127.
- Martirosian, A. A. and Torosian, R. M. 1967 'K boprosy ob interpretatsii eneoliticheskoi kul'tury Armenii', *Vestnik obshchestvennykh nauk AN Arm. SSR* 3: 52–62.
- Martirosyan-Olshansky, K., Areshian, G. E., Avestiyan, P. S., and Hayrapetyan, A. 2013 'Masis Blur: A Late Neolithic settlement in the Plain of Ararat, Armenia', *Backdirt* 2013: 142–146.
- Mason, R. and Cooper, L. 1999 'Grog, petrology and Early Transcaucasians at Godin', *Iran* 37: 25–31.
- Matthews, R., Matthews, W., and Mohammadifar, Y. (eds.) 2013 *The Earliest Neolithic of Iran*. Oxford: Oxbow books.
- Matthews, W. K. and Marr, N. Y. 1948 *The Japhetic Theory: On the Linguistic Theories of N. Y. Marr*. Frome and London: Butler and Tanner.
- Mazar, A. (ed.) 2012 *Excavations at Tel Beth-Shean 1989–1996*, Vol. IV. *The 4th and 3rd Millennia BCE*. Jerusalem: Israel Exploration Society; The Institute of Archaeology, The Hebrew University of Jerusalem.

- Maziar, S. 2010 'Excavations at Köhné Pāsgāh Tepesi, the Araxes Valley, Northwest Iran: First preliminary report', *Ancient Near Eastern Studies* 47: 165–193.
- . 2015 'Settlement dynamics of the Kura-Araxes culture: An overview of the Late Chalcolithic and Early Bronze Age in the Khoda Afarin Plain, North-Western Iran', *Paléorient* 41.1: 25–36.
- McAnany, P. A. and Yoffee, N. 2010 *Questioning Collapse: Human Resilience, Ecological Vulnerability, and the Aftermath of Empire*. Cambridge: Cambridge University Press.
- McGovern, P. E. 2003 *Ancient Wine: The Search for the Origins of Viniculture*. Princeton, NJ: Princeton University Press.
- . 2009 *Uncorking the Past: The Quest for Wine, Beer, and Other Alcoholic Beverages*. Berkeley: University of California Press.
- McGuire, R. H. 1993 'Archaeology and Marxism', *Archaeological Method and Theory* 5: 101–157.
- Meignen, L. and Tushabramishvili, N. 2006 'Paléolithique moyen Laminaire sur les flancs sud du Caucase: productions lithiques et fonctionnement du site de Djruchula (Géorgie)', *Paléorient* 32/2: 81–104.
- Melikset-Bek, L. 1938 *Megalituri kultura saqartvelosi: Masalebi arqaiuli monumentuli khelovnebis istoriatvis*. Tbilisi: Federacia. (In Georgian).
- Meliksetian, K., Kraus, S., Pernicka, E., Avetisyan, P., Devejian, S., and Petrosyan, L. 2011 'Metallurgy of prehistoric Armenia', in *Anatolian Metals V* (Der Anschnitt 24/ Veröffentlichungen aus dem Deutschem Bergbau-Museum 180), edited by Ü. Yalcın, pp. 201–210. Bochum: Deutsches Bergbau-Museum.
- Meliksetyan, C. and Pernicka, E. 2010 'Geochemical characterisation of Armenian Early Bronze Age metal artefacts and their relation to copper ores', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 41–58. Bonn: Dr Rudolf Habelt GmbH.
- Mellaart, J. 1975 *The Neolithic of the Near East*. London: Thames and Hudson.
- Mellars, P. 2006 'Archeology and the dispersal of modern humans in Europe: Deconstructing the Aurignacian', *Evolutionary Anthropology* 15: 167–182.
- Meller, H., Knoll, K. and Dresely, V. 2011 'Die Felsbilder von Ughtasar, Provinz Sjunik', in *Archäologie in Armenien Ergebnisse der Kooperationsprojekte 2010: Ein Vorbericht*, edited by H. Meller and P. Avetisyan, pp. 131–142. Halle: Landesmuseum für Vorgeschichte.
- Menabde, M. V. and Kiguradze, T. V. 1981 *Arkheologicheskoe pamiatniki c. Sioni*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- Meshveliani, T. 1989 'About the early stages of the Upper Palaeolithic cultures in western Georgia', *Sakartvelos sakhelmtsipo muzeumis moambe* 90(B): 3–31. (In Georgian with Russian summary).
- . 2013 'On Neolithic origins in western Georgia', *Archaeology, Ethnology and Anthropology of Eurasia* 41 (2): 61–72.
- Meshveliani, T., Bar-Oz, G., Bar-Yosef, O., Belfer-Cohen, A., Boaretto, E., Jakeli, N., Koridze, I., and Matskevich, Z. 2007 'Mesolithic hunters at Kotias Klde, western Georgia: Preliminary results', *Paléorient* 33: 47–58.
- Meshveliani, T., Bar-Yosef, O., and Belfer-Cohen, A. 2004 'The Upper Palaeolithic in western Georgia', in *The Early Upper Paleolithic Beyond Western Europe*, edited by P. J. Brantingham, S. L. Kuhn, and K. W. Kerry, pp. 129–143. Berkeley: University of California Press.
- Messenger, E., Belmecheri, S., Grafenstein, U. V., Nomade, S., Voinchet, P., Ollivier, V., Mgeladze, A., Lordkipanidze, D., Mazuy, A., and Moreau, C. 2013 'Palaeoenvironmental records of the last 13 ka in Lesser Caucasus: First data from Paravani Lake (Djavakheti, Georgia)', *Quaternary Science Reviews* 77: 125–140.
- Messenger, E., Herrscher, E., Martin, L., Kvavadze, E., Martkoplshvili, I., Delhon, C., Kakhiani, K., Bedianashvili, G., Sagona, A., Bitadze, L., Poulmarc'h, M., Guy, A., and Lordkipanidze, D. 2015 'Archaeobotanical and isotopic evidence of Early Bronze Age farming activities and diet in the mountainous environment of the South Caucasus: A pilot study of Chobareti site (Samtskhe-Javakheti region)', *Journal of Archaeological Science* 53: 214–226.
- Mikeladze, T. K. and Khakhutaishvili, D. A. 1985 *Drevnekolkhidskoe poselenie Namcheduri*. Tbilisi: Metsniereba.
- Mikhaelis, A. 1913 'Khudozhestvenno-arkheologicheskie za sto let', *Moskovskii arkheologicheskii institut* 2: 387–399.

- Miller, D. 2008 *The Comfort of Things*. Cambridge, UK; Malden, MA: Polity.
- . 2010 *Stuff*. Cambridge: Polity.
- Mindiashvili, G., Iremashvili, S., and Sherazadishvili, Z. 2012 ‘Gudabertka settlement (Excavations of 2005, 2009 years)’, *Studies in Caucasian Archaeology* 1: 234–250.
- Mindiashvili, G., Murvanidze, B., Ramishvili, A., and Chikovani G. 2003 ‘Archaeological Excavations on 143 km of Pipeline’, in *Pipeline Archaeology*, III, pp. 65–94. Tbilisi: Centre for Archaeological Studies.
- Minns, E. H. 1943 ‘Trialeti’, *Antiquity* 17: 129–135.
- Miron, A. and Orthmann, W. 1995 *Unterwegs zum Goldenen Vlies: Archäologische Funde au Georgien*. Saarbrücken: Saarlandischer Kulturbesitz.
- Mirtskhulava, G. I. 1975 *Samshvilde (Rezultaty Raskopok 1968–1970 gg.) / Samshvilde. (Results of the 1968–1970 Excavations)*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- . 2011 *Problems of the Kura-Araxes Culture* (Studies of the Society of Assyriologists, Bibliologists and Caucasiologists, 5). Tbilisi: Artlines.
- Miziev, I. M. 1984 ‘Dva kurgan u s. Kishpek i Kizburin III / Two Kurgans near the village Kishbek and Kizburin III’, in *Archaeological Works on the Constructions in Kabardino-Balkaria*. Vol. 1. Nalchik: Elbrus.
- . 1986. *Shagi k istokam etnicheskoi istorii Tsentralnogo Kavkaza*. Nalchik: El’brus.
- Mnatsakanian, A. O. 1957 ‘Raskopkii kurganov na poberezh’e oz. Sevan v 1956 g. (Predvaritel’noe soobshchenie)’, *Sovetskaia Arkheologiya* 2: 146–153.
- . 1960 ‘Drevnie povozki iz kurganov bronzovogo veka na poberezh’e oz. Sevan’, *Sovetskaia Arkheologiya* 2: 139–152.
- . 1961 ‘Lchashenski kurgany (raskopki 1956 goda)’, *Kratkie Soobshcheniya* 85: 66–72.
- . 1965 *Lchasheni Mshakuyti Zargatsman Himnakan Etapnery*. Erevan: Patma Banasirakan Handes.
- Monahan, B. H. 2007 ‘Nomadism in the Early Bronze Age southern Transcaucasia: The faunal perspective’, in *Social Orders and Social Landscapes. Second University of Chicago Conference on Eurasian Archaeology*, edited by L. M. Popova, C. Hartley, and A. T. Smith, pp. 379–392. Newcastle: Cambridge Scholars Publishing.
- . 2012 ‘Beastly goods: Pastoral production in the Late Bronze Age Tsaghkahovit Plain’, in *The Archaeology of Power and Politics in Eurasia: Regimes and Revolutions*, edited by C. W. Hartley, G. B. Yazicioğlu, and A. T. Smith, pp. 337–347.
- Motzenbäcker, I. 1996 *Sammlung Kossnierska. Die Digorische Formenkreis der Kaukasischen Bronzezeit* (Bestandskataloge Band 3). Berlin: Museum für Vor- und Frühgeschichte.
- Muhly, J. D. 2011 ‘Metals and metallurgy’, in *Oxford Handbook on Anatolian Studies*, edited by S. Steadman and G. MacMahon, pp. 858–876. Oxford: Oxford University Press.
- Munchaev, R. and Amirov, S. 2014 ‘Contacts between Mesopotamia and the Caucasus in the fourth – first half of the third millennium BC’, in *Preludes to Urbanism: The Late Chalcolithic of Mesopotamia. In Honour of Joan Oates*, edited by A. McMahon and H. Crawford, pp. 157–171. Cambridge: MacDonald Institute for Archaeological Research.
- Munchaev, R. M. 1961 *Drevneishaia Kultura Severo-Vostochnogo Kavkaza (Materialy i Issledovaniia po Arkheologii SSSR 100)*. Moscow: Izdatel’stvo Akademii Nauk SSR.
- . 1975 *Kavkaz na Zare Bronzovogo Veka*. Moscow: Nauka.
- . 1982 ‘Pamiatniki kul’tury eneolita Kavkaza’, in *Arkheologiya SSSR: Eneolit SSSR*, edited by V. M. Masson and N. Ia. Merpert, pp. 100–164. Moscow: Nauka.
- . 1994a ‘Kuro-Arakskaia Kultura’, in *Arkheologiya SSSR. Epokha Bronzy Kavkaza i Srednei Azii: Ranniaia i Sredniaia Bronza Kavkaza*, edited by K. Kh. Kushnareva and V. I. Markovin, pp. 8–57. Moscow: Nauka.
- . 1994b ‘Maikopskaia kultura’, in *Arkheologiya SSSR. Epokha Bronzy Kavkaza i Srednei Azii: Ranniaia i Sredniaia Bronza Kavkaza*, edited by K. Kh. Kushnareva and V. I. Markovin, pp. 158–225. Moscow: Nauka.
- Murvanidze, B. 2010 ‘Burials with threshing-boards from Eli-Baba cemetery’, in *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 417–429. Tbilisi: Georgian National Museum.
- Muscarella, O. W. 1967 *Phrygian Fibulae from Gordion* (Colt Archaeological Institute, 4). London: Quaritch.
- . 2003 ‘The chronology and culture of Sé Girdan: Phas III’, *Ancient Civilizations from Scythia to Siberia* 9: 117–131.

- Muscheler, R., Kromer, B., Björck, S., Svensson, A., Friedrich, M., Kaiser, K. F., and Southon, J. 2008 'Tree rings and ice cores reveal ^{14}C calibration uncertainties during the Younger Dryas', *Nature Geoscience* 1 (4): 263–267.
- Museibli, N. 2014a *The Grave Monuments and Burial Customs of the Leilatepe Culture*. Baku: Institute of Archaeology and Ethnography.
- . 2014b 'The chronology and periodization of the Leilatepe culture', *Transactions of The National Academy of Sciences of Azerbaijan* 1: 91–109. (In Azerbaijani with English and Russian Summaries).
- . 2014c 'Metal of Leilatepe culture', in *Ascension to the Crowns of Archaeology: Collection of Materials of "Ancient and Medieval States on the Territory of Kazakhstan"*. International Scientific Conference Devoted to the 90th Anniversary of K. A. Akishev, edited by B. A. Baitanayev, pp. 175–192. Almaty: A. K. Margulan Institute of Archaeology.
- Museyibli, N. (ed.) 2007 *Böyük Kesik. Eneolit Dövrü Yasayış Meskeni*. Baku: National Academy of Sciences of Azerbaijan.
- Muskhelishvili, D., Murvanidze, B., and Jibladze, L. 2008 'The Middle Bronze Age settlement at Anaklia II', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 270–278. Leuven: Peeters.
- Nagel, W. and Strommenger, E. 1985 *Kalakent. Früheisenzeitliche Grabfunde aus dem transkaukasischen Gebiet von Kirovabad/Jelissetopol*. Berlin: Wissenschaftsverlag V. Spiess.
- Narimanishvili, G. 2004 'Ritual roads at Trialeti Barrows', *Journal of Georgian Archaeology* 1: 120–133.
- . 2009 *Novye Otkrytiia v Trialetckoi Kul'ture*. Tbilisi: Mtsignobari.
- . 2010 'Trialeti in the 15th and 14th centuries BC', in *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 312–369. Tbilisi: Georgian National Museum.
- Narimanishvili, G. and Amiranashvili, J. 2010 'Jinisi settlement', in *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 224–253. Tbilisi: Georgian National Museum.
- Narimanishvili, G., Amiranashvili, J., Kvachadze, M., and Shanshashvili, N. 2010 'Archaeological sites at Avranlo', in *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 381–409. Tbilisi: Georgian National Museum.
- Narimanišvili, G. and Šanšašvili, N. 2010 'Neue Forschungen zur Trialeti-Kultur', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 205–221. Bonn: Dr Rudolf Habelt GmbH.
- Narimanishvili, G., Shanshashvili, N., and Narimanishvili, D. 2015 'Menhirs from south Caucasus', in *International Symposium on East Anatolia South Caucasus Cultures*, 2 vols, edited by M. Isikli and B. Can, pp. 212–220. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Narimanov, I., Akhundov, T., and Aliyev, N. 2007 *Leyla Təpə. Poselenie, traditsiia, ttap v etno-kul'turnoi istorii Iuzhnogo-Kavkaza*. Baku: Natsional'naia Akademiia Nauk Azerbaizhana and Institut Arkheologii Etnografii.
- Narimanov, I. G. 1965 'Arkheologicheskie issledovaniia poseleniia Shomu-Tepe v 1963 g.', in *Arkheologicheskie Issledovaniia v Azerbaidzhane*, edited by R. M. Vaidov, pp. 45–53. Baku: Izd-vo Akademii nauk Azerbaidzhanskoi SSR.
- . 1969 'Raskopki eneoliticheskogo poseleniia Ilani-Tepe', *Arkheologicheskie Otkrytiia* 1968: 396–397.
- . 1987 *Kul'tura drevneishego zemledel'chesko-skotovodcheskogo naseleniia Azerbaidzhana (Epokha eneolita VI–IV tye. do n. e.)*. Baku: Elm.
- . 1992 'The earliest agricultural settlements in the territory of Azerbaidzhan', *Soviet Anthropology and Archaeology* 30(4): 9–66.
- Narimanov, I. G. and Ismailov, G. S. 1962 'Akstafachaiskoe poselenie bliz g. Kazakha', *Sovetskaia Arkheologiia* 4: 149–156.
- Narroll, R. 1962 'Floor area and settlement population', *American Antiquity* 27: 587–589.
- Nasidze, I. and Stoneking, M. 2001 'Mitochondrial DNA variation and language replacements in the Caucasus', *Proceedings: Biological Sciences* 268 (n. 1472): 1197–1206.
- Nebieridze, L. D. 1972 *Neolit Zapadnogo Zakavkazia* Tbilisi: Metsniereba. (In Georgian with Russian summary).

- Nebieridze, L. D. 1978 *Darkvetskii mnogoslownyi naves*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- . 1986 *Rannie stupeni razvitiia Zapadnokabkazskoi rannezemledel'cheskoi kul'tury*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- . 2010 *The Tsopi Chalcolithic Culture* (Society of Assyriologists, Biblical Studies and Caucasiologists, Monograph 6). Tbilisi: Artlines.
- Nechitailo, A. L. 1979 *Suvorovskii Kurgannyi Mogilnik*. Kiev: Nauk. Dumka.
- Nedoluzhko, A., Boulygina, E. S., Sokolov, A. S., Tsygankova, S. V., Gruzdeva, M., Rezepkin, A. D., and Prokhortchouk, E. B. 2014 'Analysis of the mitochondrial genome of a Novosvobodnaya Culture representative using next-generation sequencing and its relation to the Funnel Beaker Culture', *Acta Naturae* 6 (2): 31–34.
- Nekhaev A. A. 1991 'A burial of the Maikop Culture from the Krasnogvardeisk village mound', *Soviet Anthropology and Archeology* 30 (3): 29–34.
- . 1990 'Eneoliticheskie poseleniia Zakubania', in *Drevnie pamyatniki Kubani*, pp. 5–22. Krasnodar.
- Nekhrizov, G. and Tzvetkova, J. 2012 'Ritual pit complexes in Iron Age Thrace: The case study of Svilengrad', in Çilingiroğlu, A. and Sagona, A. (eds.), *Anatolian Iron Ages 7: The Proceedings of the Seventh Anatolian Iron Ages Colloquium Held at Edirne, 19–24 August 2010*, pp. 177–209. Leuven: Peeters.
- Neumann, D. 2012 'Jewelry and ornaments', in 'Ancient Kura 2010–2011: the first two seasons of joint field work in the southern Caucasus' edited by B. Lyonnet et al., *Archäologische Mitteilungen aus Iran und Turan* 44: 48–50.
- Nioradze, M. G. and Otte, M. 2000 'Paléolithique supérieur de Géorgie', *L'Anthropologie* 104: 265–300.
- Nishiaki, Y., Guliyev, F., and Kadowaki, S. 2015 'Chronological contexts of the earliest pottery Neolithic in the south Caucasus: Radiocarbon dates for Göytepe and Hacı Elamxanlı Tepe, Azerbaijan', *American Journal of Archaeology* 119 (3): 279–294.
- North, J. A. 2000, *Roman Religion*. Cambridge: Cambridge University Press.
- Oganesian, V. E. 1992a 'A silver goblet from Karashamb', *Soviet Anthropology and Archaeology* 30 (4): 84–102.
- . 1992b 'Raskopi Karashambskogo mogil'nika v 1987 g.', in *Arkheologicheskie raboty na novostroikakh Armenii*, pp. 26–36. Yerevan: Izdatel'stvo AN Armenii.
- Ogg, J. G., Ogg, G., and Gradstein, F. M. 2008, *The Concise Geologic Time Scale*. Cambridge: Cambridge University Press.
- Ökse, A. T. 2005 'Early Bronze Age settlement pattern and cultural structure of the Sivas region', *Archäologische Mitteilungen aus Iran und Turan* 37: 35–51.
- Ollivier, V., Fontugne, M., and Lyonnet, B. 2015 'Geomorphic response and ¹⁴C chronology of base-level changes induced by Late Quaternary Caspian Sea mobility (middle Kura Valley, Azerbaijan)', *Geomorphology* 230: 109–124.
- Omirani, B., Khatib Shahidi, H., and Abedi, A. 2012 'Early Bronze Age, new migrants and the beginning of township in Azerbaijan, NW Iran', *Iranica Antiqua* 47: 1–27.
- Ordzhonikidze, A. Z. 2004 'Qvis isrispirebi sakartvelodan', *Dzhebani* 14–15: 24–61. (In Georgian).
- Orjonikidze, A. and Jibladze, L. 2010 'The relationships of Early Bronze Age cultures in south Georgia in the light of evidence from Orchosani', in *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 137–141. Tbilisi: Georgian National Museum.
- Orthmann, W. 1967 'Zu den "Standarten" aus Alaca Höyük', *Istanbuler Mitteilungen* 17: 34–54.
- . 2014 'Trialeti', *Reallexikon der Assyriologie und Vorderasiatischen Archäologie* 14.1/2: 126–130.
- Ostashinskii, S. M. and Cherlenok, E. A. 2013 'Novye dannye o sootnoshenii pozdne-neoliticheskoi i maikopskoi kul'tury v predgor'iakh severo-zapadnogo kavkaza', in *Shestaia Mezhdunarodnaia Kubanskaia Arkheologicheskaiia Konferentsiia: Materialy Konferentsii*, edited by H. Iu Limberis, I. I. Marchenko, and B. A. Raeb, pp. 321–324. Krasnodar: Ekoinvest.
- . 2014 'Kremnevye izdeliia nabesa Meshoko (po materialam raskopok 2011–2012 gg.)', in *Problemy arkheologii epokhi kamnia: k 70-letiiu Valentiny Ivanovny Beliaevoi*,

- edited by D. G. Savinov, pp. 164–170. Saint Petersburg: Peterburgskii gosudarstvennyi universitet
- Ostašinskij, S. M. and Čerlenok, E. A. 2015 'Die stratigrafie des Abri Mešoko und das problem der wechselbeziehungen der kulturen des Äneolithikum und der Bronzezeit in nordwest-kaukasien', in *Der Kaukasus im Spannungsfeld zwischen Osteuropa und Vorderem Orient: Dialog der Kulturen, Kultur des Dialoges (im Gedenken an den 140. Geburtstag von Alexander A. Miller)*. Internationale Fachtagung für die Archäologie und Humboldt-Kolleg (5.–8. Oktober 2015, Sankt Petersburg), pp. 119–123. Saint Petersburg: Russische Akademie der Wissenschaften Institut für Geschichte der Materiellen Kultur, Deutsches Archäologisches Institut Eurasien-Abteilung, and Staatliche Eremitage.
- Otte, M. 2004 'The Aurignacian in Asia', in *The Early Upper Paleolithic Beyond Western Europe*, edited by P. J. Brantingham, S. L. Kuhn, and K. W. Kerry, pp. 144–150. Berkeley: University of California Press.
- . 2006 'The Aurignacian of the Caucasus', in *Towards a Definition of the Aurignacian: Proceedings of the Symposium Held in Lisbon, Portugal, June 25–30, 2002* (Trabalhos de Arqueologia, 45), edited by O. Bar-Yosef and J. Zilhão, pp. 287–294. Lisbon: Instituto Portugues de Arqueologia.
- Ovchinnikov, I. V., Götherström, A., Romanov, G. P., Kharitonov, V. M., Lidén, K., Goodwin, W. 2000 'Molecular analysis of Neanderthal DNA from the northern Caucasus', *Nature* 404: 490–493.
- Owen, J. 2011 'Earliest known winery found in Armenian cave', *National Geographic News* January 12. <http://news.nationalgeographic.com/news/2011/01/110111-oldest-wine-press-making-winery-armenia-science-ucla/> accessed 9 December 2015.
- Özdoğan, M., Başgelen, N., and Kuniholm, P. 2011–2013 *The Neolithic in Turkey: New Excavations and New Research*. 3rd ed., 5 vols. Istanbul: Archaeology & Art Publications.
- Özfirat, A. 2001 *Doğu Anadolu Yayla Kültürleri*. Istanbul: Arkeoloji ve Sanat.
- . 2008 'The highland plateau of eastern Anatolia in the second millennium BCE: Middle/Late Bronze Ages', in *Ceramics in Transitions: Chalcolithic through Iron Age in the Highlands of the Southern Caucasus and Anatolia*, edited by K. S. Rubinson and A. Sagona, pp. 101–121. Leuven: Peeters.
- . 2009a 'Pre-classical survey in eastern Turkey. Sixth preliminary report: Lake Van Basin and Mt. Ağrı region', *Archäologische Mitteilungen aus Iran und Turan* 41: 211–232.
- . 2009b 'Excavation of the Bozkurt Kurgan cemetery, 2007. First preliminary report', *Archäologische Mitteilungen aus Iran und Turan* 41: 233–247.
- Pallas, P. S. 1799 *Bemerkungen auf eine Reise in südlichen Stathalterschaften des Russischen Reiches in den Jahren 1773 und 1794*. Vol. 2. Leipzig: Bey Gottfried Martini.
- Palumbi, G. 2003a 'Mid-fourth millennium red-black burnished wares from Anatolia: A cross comparison', in *Ceramics in Transitions: Chalcolithic through Iron Age in the Highlands of the Southern Caucasus and Anatolia*, edited by K. S. Rubinson and A. Sagona, pp. 39–58. Louvain: Peeters.
- . 2003b 'Red-black pottery: Eastern Anatolian and Transcaucasian relationships around the mid-fourth millennium BC', *Ancient Near Eastern Studies* 40: 80–134.
- . 2007a 'A preliminary analysis on the prehistoric pottery from Aratashen (Armenia)', in *Les cultures du Caucase (VI–III^e millénaires av. notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 63–76. Paris: CNRS Éditions.
- . 2007b 'From collective burials to symbols of power: The translation of role and meanings of the stone-lined cist burial tradition from southern Caucasus to the Euphrates Valley', *Scienze dell'Antichità* 14: 17–44.
- . 2008 *The Red and Black: Social and Cultural Interaction between the Upper Euphrates and Southern Caucasus Communities in the Fourth and Third Millennium B.C.* Rome: Sapienza Università di Roma, Dipartimento di scienze storiche archeologiche e antropologiche dell'antichità.
- . 2010 'Pastoral models and centralised animal husbandry. The case of Arslantepe', in *Economic Centralisation in Formative States. The Archaeological Reconstruction of the Economic System in 4th millennium Arslantepe*, edited by M. Frangipane, pp. 149–163. Rome: Dipartimento di Scienze Storiche Archeologiche e Antropologiche dell'Antichità, Sapienza Università di Roma.
- . 2011 'The Chalcolithic of eastern Anatolia', in *Oxford Handbook on Anatolian Studies*, edited by S. Steadman and G.

- MacMahon, pp. 205–226. Oxford: Oxford University Press.
- . 2012 ‘Bridging the frontiers. Pastoral groups in the Upper Euphrates region in the early third millennium BCE’, *Orgini* 34: 261–278.
- . 2016 ‘The Early Bronze Age of the Southern Caucasus’ *Oxford Handbooks Online* DOI: 10.1093/oxfordhb/9780199935413.013.14
- Palumbi, G. and Chatainger, C. 2014 ‘The Kura-Araxes culture from the Caucasus to Iran, Anatolia and the Levant: Between unity and diversity. A synthesis’, *Paléorient* 40.2: 247–260.
- Palumbi, G., Gratuze, B., Harutyunyan, A., and Chataigner, C. 2014 ‘Obsidian-tempered pottery in the Southern Caucasus: A new approach to obsidian as a ceramic-temper’, *Journal of Archaeological Science* 44: 43–54.
- Pantskhava, L., Maisuradze, B., and Gobedzhishvili, G. 2001 ‘Towards dating Burial no. 12 excavated at Brili necropolis in 1939’, *Dzeibani* 8: 39–48. (In Georgian with English summary).
- Pantskhava, L., Sulava, N., and Papushvili, R. 2003 ‘Kolkhidskaia, Kobanskaia ili Kolkhidsko-Kobanskaia’, *Kavkazovedenie* 4: 102–117.
- Pantskhava, L. N. 1988 *Pamiatniki Khudozhestvennogo Remesla Kolkhidskoi Kul'tury*. Tbilisi: Metsniereba. (In Georgian).
- Papuashvili, R. and Papuashvili, N. 2008 ‘Mamuliebis Dikha-Gudzuba, Colchis’, in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 328–350. Leuven: Peeters.
- Pare, C. F. E. 2000 ‘Bronze and the Bronze Age’, in *Metals Make the World Go Round: The Supply and Circulation of Metals in Bronze Age Europe*, edited by C. F. E. Pare, pp. 1–38. Oxford: Oxbow Books.
- Parker, B. J., with assistance from L. Ristvet, V. Baxşeliyev, S. Aşurov, and A. Headman 2011 ‘In the shadow of Ararat. Intensive surveys in the Araxes River region, Naxçivan, Azerbaijan’, *Anatolica* 34: 187–205.
- Parker Pearson, M. 1999 *The Archaeology of Death and Burial* (Texas A & M University Series 3). College Station: Texas A & M University Press.
- Parzinger, H. 1993 *Studien zur Chronologie und Kulturgeschichte der Jungstein-, Kupfer- und Frühbronzezeit zwischen Karpaten und Mitterem Taurus* (Römischen-germanische Forschungen 52). Mainz: Philip von Zabern.
- Payne, S. 1973 ‘Kill-off patterns in sheep and goats: The mandibles from Aşvan Kale’, *Anatolian Studies* 23: 281–303.
- Pearce, J. 2000 ‘The Late Chalcolithic sequence at Hacinebi Tepe, Turkey’, in *Chronologies des pays du Caucase et de l’euphrate aux IV^e–III^e millénaires: Actes du colloque d’Istanbul, 16–19 décembre 1998*, edited by C. Marro and H. Hauptmann, pp. 115–143. Paris: De Boccard.
- Peasnell, B. 2002 ‘Appendix. Burials from Tepe Gawra, level VIII to XIA/B’, in M. S. Rothman, *Tepe Gawra: The Evolution of a Small, Prehistoric Center in Northern Iraq* (University Museum Monograph 112). Philadelphia: University of Pennsylvania, Museum of Archaeology and Anthropology.
- Pedde, F. 2000 *Vorderasiatische Fibeln Von der Levante bis Iran* (Abhandlungen der Deutschen Orient-Gesellschaft 24). Wiesbaden: Harrassowitz.
- Peterson, D. L. 2003 ‘Ancient metallurgy in the ancient kingdom: The technology and value of Early Bronze Age metalwork from Velikent, Dagestan’, in *Archaeology in the Borderlands: Investigations in Caucasia and Beyond*, edited by A. T. Smith and K. S. Robinson, pp. 22–37. Los Angeles: Cotsen Institute Press.
- Petrasch, J. 2015 ‘Central European enclosures’, in *The Oxford Handbook of Neolithic Europe*, edited by C. Fowler, J. Harding, and D. Hofmann, pp. 763–778. Oxford: Oxford University Press.
- Petrie, C. A. (ed.) 2013 *Ancient Iran and its Neighbours: Local Developments and Long-Range Interactions in the Fourth Millennium BC*. Oxbow: Oxford & Oakville.
- Petrosian, I. A. 1989 *Raskopki Pamiatnikov Ket i Voskeaska (III–I tys. do n. e.)*. Erevan: Izd-vo AN Armianskoi SSR.
- Pfaffenberger, B. 1992 ‘Social anthropology of technology’, *Annual Review of Anthropology* 21: 491–516.
- Philip, G. 1999 ‘Complexity and diversity in the southern Levant during the third millennium BC: The evidence of Khirbet Kerak Ware’, *Journal of Mediterranean Archaeology* 12(1): 26–57.
- Philip, G. and Millard, A. R. 2000 ‘Khirbet Kerak Ware in the Levant: The implications of radiocarbon chronology and spatial distribution’, in *Chronologies des pays du Caucase et de l’Euphrate aux IV^e–III^e millénaires: Actes du*

- colloque international (d'Istanbul, 16–19 décembre 1998)* edited by C. Marro and H. Hauptmann, pp. 279–296, (Acta Anatolica 11). Paris: de Boccard; Istanbul: Institut Français d'Études Anatoliennes.
- Picchelaury, K. 1997 *Waffen der Bronzezeit aus Ost-Georgien* (Archäologie in Eurasien Band 4). Espelkamp: Verlag Marie Leidorf.
- Piggott, S. 1962 'Heads and hoofs', *Antiquity* 36: 110–118.
- . 1969 'The earliest wheeled vehicles and the Caucasian evidence', *Proceedings of the Prehistoric Society* 34: 266–318.
- . 1983 *The Earliest Wheeled Transport: From the Atlantic Coast to the Caspian Sea*. London: Thames and Hudson.
- . 1992 *Wagon, Chariot and Carriage: Symbol and Status in the History of Transport*. London: Thames and Hudson.
- Piller, C. K. 2010 'Neue Erkenntnisse zur Verbreitung der Kura-Araxes-Kultur in Nord- und Zentraliran', in *Stories of Long Ago. Festschrift für Michael D. Roaf*, edited by H. Baker, K. Kaniuth, and A. Otto, pp. 441–457. Münster: Ugarit-Verlag.
- . 2012 'The Caucasian connection – Reflections on the transition from the Late Bronze to the Early Iron Age in Northern Iran and its connections to the Southern Caucasus', in *Austausch und Kulturkontakt im Südkaukasus und seinem Angrenzenden Regionen in der Spätbronze-/Früheisenzeit*, edited by A. Menhert, G. Menhert, and S. Reinhold, pp. 305–317. Langenweissbach: Beier & Beran.
- Pinhasi, R., Gasparian, B., Wilkinson, K., Bailey, R., Bar-Oz, G., Bruch, A., Chataigner, C., Hoffmann, D., Hovsepyan, R., Nahapetyan, S., Pike, A. W. G., Schreve, D., and Stephens, M. 2008 'Hovk 1 and the Middle and Upper Paleolithic of Armenia: A preliminary framework', *Journal of Human Evolution* 55.5: 803–816.
- Pinhasi, R., Higham, T. F. G., Golovanova, L. V., and Doronichev, V. B. 2011 'Revised age of late Neanderthal occupation and the end of the Middle Paleolithic in the northern Caucasus', *Proceedings of the National Academy of Sciences* 108: 8611–8616.
- Piotrovskii, B. B. 1949 *Arkheologiya Zakavkazia: S Drevneyshikh Vremen do I Tysyacheletiya do n.e.* Leningrad: Izdatel'stvo Leningradskogo Gosudarstvennogo Ordena Lenina Universiteta.
- . 1950 *Karmir-Blur I: Resultati Rabot Arkheologicheskoi Ekspeditsii Instituta Istorii Nauk Akademii Nauk Armianskoi SSR i Gosudarstvennogo Ermitazha 1939–1940 gg.* Yerevan: Izdatel'stvo Akademiia Nauk Armianskoe SSR.
- . 1952 *Karmir-Blur II: Resultati Rabot Arkheologicheskoi Ekspeditsii Instituta Istorii Nauk Akademii Nauk Armianskoi SSR i Gosudarstvennogo Ermitazha 1949–50 gg.* Yerevan: Izdatel'stvo Akademiya Nauk Armianskoe SSR.
- . 1955 *Karmir-Blur III: Resultati Rabot Arkheologicheskoi Ekspeditsii Instituta Istorii Nauk Akademii Nauk Armianskoi SSR i Gosudarstvennogo Ermitazha 1951–1953 gg.* Yerevan: Izdatel'stvo Akademiia Nauk Armianskoe SSR.
- Piotrovskii, Y. Y. 1994 'Zametki s kamennym nabershiem iz Maikopskogo kurgana (Oshad)', in *Pamiatniki drevnego I srednevekovogo iskusstva. Problemy arkheologii*, pp. 85–92. Leningrad.
- . 1998 'Periodizatsiya iuvelnirnykh izdelii v Tsirkumpontiiskoi probintsii (eneolit – ranniaia bronza)', in *Shliman, Peterburg, Troia*, edited by M. V. Piotrovskii, Iu. V. Andreev, and E. B. Anan'ich pp. 82–92. Saint Petersburg: Slavia.
- Piro, J. 2009 *Pastoralism in the Early Transcaucasian Culture: The Faunal Remains from Sos Höyük*. PhD dissertation: New York University.
- Pitskhelauri, K. 1973 *Ag'mosavlet Sakartvelos Tomta Istorii Dziritadi p'roblemebi (Dzv. Ts. XV–VII ss)/ Main Problems in the History of the Eastern Georgian Tribes (15th – 7th c BC)/ Osnovnye problemy istorii plemen Vostochnoi Gruzii (XV–VII vv. do n.e.)*. Tbilisi: Metsniereba.
- . 1979 'Vostochnaia Gruzii v kontse bronzovogo veka', *Trudy Kakhetiskoi Arkheologicheskoi Ekspeditsii* 2: 140–154 (In Russian).
- . 1995 'Die Spätbronze- und Früheisenzeitlichen Kulturen Ostgeorgiens', in *Unterwegs zum Goldenen Vlies. Archaeologische Funde aus Georgien*, edited by A. Miron and W. Orthmann, pp. 97–106. Ausstellungskatalog. Saarbrücken, Stuttgart: Konrad Theiss Verlag GmbH & Co.
- . 2006 'Arkheologicheskie issledovaniia 1990–2003 gg. v Kakheti (itogi I perspektivy)', *Arkheologiya Kavkaza* 1: 23–54.
- Pitschelaury, K. N., Mamaishvili, N. T., Maisuradze, V. G., Varazashvili, V. V.,

- Makharadze, Z. E., Beriashvili, M. T., Dshalabadze, M. G., and Gogochuri, G. K. 1984 'Kakhetskaia arkheologicheskaiia ekspeditsiia', *Polevye Arkheologicheskie Issledovaniia. Kratkie Soobshcheniia* 1981: 26–28.
- Pitschelauri, K. and Varazashvili, V. 1988 'Zeianis gorasamarxi No. 1 Garezi', *Kaxetis arkeologiuri ekspeditsiis shromebi* 8: 48–52.
- Pizchelauri, K. and Orthmann, W. 1992 'Der kurgan "Tetri Kwebi I"', *Georgica* 15: 15–22.
- Pkhakadze, G. 1963 *Eneolit Kvemo-Kartli (Eneoliticheskie Pamiatniki Kiketi) / Eneolithic Kvemo-Kartli (Kiketi Eneolithic Finds)*. Tbilisi: Metsniereba. (In Georgian with Russian summary).
- . 1976 'Arkeologicheskie issledovaniia v s. Koda na territorii stroitelstva pitsefermy', in *Sbornike Arkheologicheskie Issledovaniia na Novostroikakh Gruzinskoi SSR*, pp. 45–48. Tbilisi: Institut Istorii Akademii Nauk Gruzinskoi SSR.
- . 2000 'On the distribution of Kura-Araxes hearths and andirons', *Dzhebani* 5: 15–26.
- Pkhakadze, G. and Baramidze, M. 2008 'The settlement at Pichori and Colchian Bronze Age chronology', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 249–263. Leuven: Peeters.
- Pkhakadze, G., Kalandadze, K., and Orjonikidze, A. 1982 'Rezultaty rabot Abastumanskoi ekspeditsii/Results of the work of the Abastumani expedition', in *Polevie Arkheologicheskie Issledovaniia 1980/ Field Archaeological Investigations 1980*, edited by O. Lordkipanidze, T. Mikeladze, and I. Jalaghania, pp. 20–21. Tbilisi: Centre for Archaeological Studies.
- Pogrebova, M. N. 2011 *Istoriia vostochnogo zakavkaz'ia. Btoraia polovina II – Nachalo I tyc. do n.e. po arkheologicheskim dannym*. Moscow: Vostochnaia literatura RAN.
- Porter, A. 2002 'Communities in conflict: Death and the contest for social order in Euphrates River Valley', *Near Eastern Archaeology* 65: 156–173.
- . 2012 *Mobile Pastoralism and the Formation of Near Eastern Civilizations: Weaving Together Society*. Cambridge: Cambridge University Press.
- Potts, D. T. 1984 'On salt and salt gathering in ancient Mesopotamia', *Journal of the Economic and Social History of the Orient* 27: 225–271.
- . 2004 'Camel hybridization and the role of *Camelus bactrianus* in the ancient Near East', *Journal of the Economic and Social History of the Orient* 47 (2): 143–165.
- . 2014 *Nomadism in Iran: From Antiquity to the Modern Era*. Oxford: Oxford University Press.
- Potts, D. T. (ed.) 2013 *The Oxford Handbook of Ancient Iran*. Oxford: Oxford University Press.
- Poulmarc'h, M. 2014a *Pratiques funéraires et identité biologique des populations du Sud Caucase du Néolithique à la fin de la culture Kura-Araxe (6^e–3^e millénaire): une approche archéo-anthropologique*. Unpublished PhD dissertation: Université Lumière Lyon 2.
- Poulmarc'h, M. and Le Mort, F. 2015 'Diversification of the funerary practices in the Southern Caucasus from the Neolithic to the Chalcolithic', *Quaternary International* 395: 184–193.
- Poulmarc'h, M. with Pecqueur, L., and Jalilov, B. 2014b 'An overview of Kura-Araxes funerary practices in the Southern Caucasus', *Paléorient* 40(2): 231–246.
- Pringle, D. 2008 *The Murder of Nikolai Vavilov: The Story of Stalin's Persecution of One of the Great Scientists of the Twentieth Century*. New York: Simon & Schuster.
- Pruss, A. 1993 'Zur Chronologie des Gräberfeldes von Tli (Teil 1)', *Georgica* 16: 25–47.
- Przeworski, S. 1935 'Der Grottenfund von Ordu', *Archiv Orientalni* 7: 390–414.
- Puturidze, M. 2003 'The social and economic shifts in the south Caucasian Middle Bronze Age', in *Archaeology in the Borderlands: Investigations in Caucasia and Beyond*, edited by A. T. Smith and K. S. Robinson, pp. 111–127. Los Angeles: Cotsen Institute Press.
- Puturidze, M. and Rova, E. (eds.) 2012a *Khashuri Natsargora: The Early Bronze Age Graves* (Publication of the Georgian-Italian Shida Kartli Archaeological Project I. Subartu 30). Turnhout: Brepols.
- . 2012b 'The Joint Shida Kartli Archaeological Project: Aims and results of the first field season (Autumn 2009)', in *Proceedings of the 7th International Congress on the Archaeology of the Ancient Near East. 12 April – 16 April 2010, the British Museum and UCL, London*. Vol. 3 *Fieldwork & Recent Research Posters*, edited by R. Matthews and J. Curtis, pp. 51–70. Wiesbaden: Harrassowitz.

- Rahmstorf, L. 2010 'Indications for Aegean-Caucasian relations during the third millennium BC', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.-2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.-3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 263-295. Bonn: Dr Rudolf Habelt GmbH.
- Ramishvili, A. 2008 'The Tsaghvli necropolis', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 291-325. Leuven: Peeters.
- Rapp, S. H. Jr. 2014 *The Sasanian World through Georgian Eyes: Caucasia and the Iranian Commonwealth in Late Antique Georgian Literature*. Farnham, Surrey: Ashgate.
- Rappaport, R. A. 1999 *Ritual and Religion in the Making of Humanity* (Cambridge Studies in Social and Cultural Anthropology 110). Cambridge: Cambridge University Press.
- Rappaport, N. 2014 *Social and Cultural Anthropology: The Key Concepts*. 3rd ed. London: Routledge.
- Rassamakin, Y. 1999 'The Eneolithic of the Black Sea steppe: Dynamics of the cultural and economic development 4500-2300 B. C.', in *Late Prehistoric Exploitation of the Eurasian Steppe* (McDonald Institute Monographs), edited by M. Levine, Y. Rassamakin, A. Kislenko, and N. Tatarinstseva, pp. 59-182. Cambridge: McDonald Institute for Archaeological Research.
- Redding, R. 1984 'Theoretical determinants of a herder's decisions: Modeling variation in the sheep/goat ratio', in *Animals and Archaeology: Early Herders and their Flocks*, Vol. 3 (B.A.R. International Series, 202), edited by J. Clutton-Brock and C. Grigson, pp. 223-241. Oxford: British Archaeological Reports.
- Reimer, P. J., Baillie, M. G. L., Bard, E., Bayliss, A., Beck, J. W., Blackwell, P. G., Bronk Ramsey, C., Buck, C. E., Burr, G. S., Edwards, R. L., Friedrich, M., Grootes, P. M., Guilderson, T. P., Hajdas, I., Heaton, T. J., Hogg, A. G., Hughen, K. A., Kaiser, K. F., Kromer, B., McCormac, F. G., Manning, S. W., Reimer, R. W., Richards, D. A., Southon, J. R., Talamo, S., Turney, C. S. M., van der Plicht, J., Weyhenmeyer, C. E., 2009 'IntCal09 and Marine09 radiocarbon age calibration curves, 0-50,000 years cal BP', *Radiocarbon* 51(4): 1111-50.
- Reinecke, P. 1965 *Mainzer Aufsätze zur Chronologie der Bronze- und Eisenzeit*. Bonn: Habelt.
- Reinhold, S. 2003 'Traditions in transition: Some thoughts on Late Bronze Age and Early Iron Age burial costumes from the northern Caucasus', *European Journal of Archaeology* 6(1): 25-54.
- . 2005a 'Engendering cultural communication networks: Gender related exchange systems of North Caucasian Iron Age societies between high mountains, piedmonts and the steppe', in *Local Genders and Gender Locales in Archaeology* (British Archaeological Reports, International series 1426), edited by T. Hjørundal, pp. 25-45. Oxford: Archaeopress.
- . 2005b 'Warriors of the Caucasian Late Bronze and Early Iron Ages', in *Drevnosti Evrazii: Ot rannei bronzy do rannego srednevekov'ia: pamiati V. S. Ol'chovsogo. Sbornik statei*, edited by V. I. Guljaev and V. S. Ol'chovskii, pp. 228-247. Moscow: Rossiiskaia Akademiia Nauk, Institut Archeologii.
- . 2007 *Die Spätbronze- und frühe Eisenzeit im Kaukasus: Materielle Kultur, Chronologie und überregionale Beziehungen* (Universitätsforschungen zur prähistorischen Archäologie, Band 144). Bonn: Dr. Rudolf Habelt GmbH.
- . 2016 'Late Bronze Age architecture in Caucasia and beyond - Building a new lifestyle for a new epoch', in *At the Northern Frontier of the Near East: Recent Research on Caucasia and Anatolia in the Bronze Age. (Proceedings of the Humboldt-Kolleg Venice 09-12/01/2013)* (Subartu 38), edited by E. Rova and M. Tonussi, pp. 337-366. Turnhout: Brepols.
- Reinhold, S., Belinskij, A. B., and Korobov, D. S. 2007 'Landschaftsarchäologie im Nordkaukasus', *Eurasia Antiqua* 13: 139-180.
- Reinhold, S., Korobov, D., and Belinskij, A. B. 2012 'Formation und Transformation einer bronzezeitlichen Gebirgslandschaft im Nordkaukasus', in *Austausch und Kulturkontakt im Südkaukasus und seinen angrenzenden Regionen in der Spätbronze-Frühisenzeit*, edited by A. Mehnert, G. Mehnert, and S. Reinhold, pp. 9-25. Langenweissbach: Beier & Beran.
- Renfrew C. 1987 *Archaeology and Language: The Puzzle of Indo-European Origins*. London: Jonathan Cape.
- Rezepkin, A. D. 1988 'Tipologiya megaliticheskikh grobnits Zapadnogo Kavkaza', in *Voprosy Arkheologii Adigei Maikop*, pp. 156-163.

- . 1989 *Severo-Zapadnui Kavkaz v Epokhu Rannei Bronzy: (Po Materialam Pogrebal'nykh Pamyatnikov Novosvobodnenskogo Tipa)*. Abtoref, Dis.Kand. Ist. Nauk. Leningrad.
- . 1991 'Kurgan 31 Mogil'nika klady: Problemy genezisa i khronologii maikopskoi kul'tury', in *Drevnie kul'tury prikubyan'ia*, edited by V.M. Masson, pp. 167–197. Leningrad: Nauka.
- . 2000 *Das frühbronzezeitliche Gräberfeld von Klady und die Majkop-Kultur in Nordwestkaukasien* (Archäologie Eurasien 10). Rahden/Westf.: Marie Leidorf GmbH.
- . 2010 'Metallfunde der Majkop- und der Novosvobodnaja-Kultur', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 95–102. Bonn: Dr Rudolf Habelt GmbH.
- . 2012 *Novosvobodnenskaiia kul'tura: na osnove materialov mogil'nika 'Klady'* (Russian Academy of Sciences, Institute of the History of Material Culture, Proceedings vol. 37). Saint Petersburg: Nestor-Historia.
- . 2013 'Poselenie Ust'-Dzhegutinskoe', in *Materialy po izucheniiu istoriko-kul'turnogo nasledii Severnogo Kavkaza. XI, arheologiya, kraevedenie, muzeevedenie*, edited by A. B. Belinskii et al., pp. 39–70. Moscow: Pamyatniki istoricheskoi mysli.
- Ricci, A., Helwing, B., and Aliyev, T. 2012 'The Neolithic on the move: High resolution settlement dynamics investigations and their impact on archaeological landscape studies in Southwest Azerbaijan', *Tõpoi* Special volume 3: 369–375.
- Rightmire, G. P. and Lordkipanidze, D., 2010, 'Fossil Skulls from Dmanisi: A Paleodeme Representing Earliest Homo in Eurasia', in *Out of Africa I: The First Hominin Colonization of Eurasia*, edited by J. G. Fleagle, J. J. Shea, F. E. Grine, A. L. Baden, and R. E. Leakey, pp. 225–243. Berlin: Springer.
- Riond, M. 2007 'De l'argile à la terre. Maisons de torchis de l'époque de Maikop sur la rive sud du lac de Krasnodar (Adyghée, Russie)', in *Les cultures du Caucase (VI–IIIème millénaires av. notre ère). Leurs relations avec le Proche-Orient*, edited by B. Lyonnet, pp. 179–188. Paris: CNRS Éditions.
- Robinson, A. 2014 'Contested and common ground: Geography and history at the limits of the early Islamic Conquests', *Ancient Near Eastern Studies* 51: 317–340.
- Rostovtzeff, M. 1922 *Iranians and Greeks in South Russia*. Oxford: Clarendon Press.
- Rostunov, V. L., Ljachov, S., and Reinhold, S. 2009 'Cmi – Eine Freilandfundstelle des Spätmesolithikums und Frühneolithikums in Nordossetien (Nordkaukasus)', *Archäologische Mitteilungen aus Iran und Turan* 41: 47–74.
- Rothman, M. S. 2002 *Tepe Gawra: The Evolution of a Small, Prehistoric Center in Northern Iraq* (University Museum Monograph 112). Philadelphia: University of Pennsylvania, Museum of Archaeology and Anthropology.
- . 2003a 'Ripples in the stream: Transcaucasia-Anatolian interaction in the Murat/Euphrates Basin at the beginning of the third millennium BC', in *Archaeology in the Borderlands: Investigations in Caucasia and Beyond*, edited by A. T. Smith and K. Robinson, pp. 95–110. Los Angeles: Cotsen Institute Press.
- . 2003b 'Style zones and adaptations along the Turkish-Iranian borderland', in *Yeki Bud, Yeki Nabud: Essays on the Archaeology of Iran in Honor of William M. Sumner*, edited by N. Miller and K. Abdi, pp. 207–218. Los Angeles: Cotsen Institute of Archaeology.
- . 2005 'Transcaucasians: Settlement, migration, and trade in the Kura Araks Periods', *Archäologische Mitteilungen aus Iran und Turan* 37: 1–10.
- . 2011 'Migration and resettlement: Godin Period IV', in *On the High Road: The History of Godin Tepe, Iran*, edited by H. Gopnik and M. S. Rothman, pp. 139–208. Costa Mesa, CA: Mazda Publishers in association with the Royal Ontario Museum.
- . 2015 'Early Bronze Age migrants and ethnicity in the Middle Eastern mountain zone', *Proceedings of the National Academy of Sciences* 112 (30): 9190–9195.
- . 2016 'Explaining the Kura-Araxes', in *Fitful Histories and Unruly Publics: Rethinking Temporality and Community in Eurasian Archaeology*, edited by K. O. Weber, E. Hite, L. Khatchadourian, and A. T. Smith, pp. 215–255. Leiden: Brill.
- Rothman, M. S. (ed.) 2001 *Uruk Mesopotamia & its Neighbors: Cross Cultural Interactions in the Era of State Formation*. (School of American Research Advanced Seminar Series). Sante Fe; Oxford: School of American Research Press and James Currey.

- Rothman, M. S and Kozbe, G. 1997 'Muş in the Early Bronze Age', *Anatolian Studies* 47: 105–126.
- Rova, E., Makharadze, Z., and Puturidze, M. 2014 'New research on the 3rd millennium BC cultures of the southern Caucasus: The 2010 and 2011 field campaigns of the Georgian-Italian Shida Kartli archaeological project', in *Proceedings of the 8th International Congress on the Archaeology of the Ancient Near East. 30 April – 4 May 2012, University of Warsaw*. Vol. 2. *Excavations and Progress Reports, Posters*, edited by P. Bieliński, M. Gawlikowski, R. Koliński, D. Ławecka, A. Sołtysiak, and Z. Wygnańska, pp. 401–415. Wiesbaden: Harrasowitz.
- Rova, E., Puturidze, M., and Makharadze, Z. 2010 'The Georgian-Italian Shida Kartli archaeological project: A report on the first two field seasons 2009 and 2010', *Rivista di Archeologia* 34: 5–30.
- Rubinson, K. S. 1976 *The Trialeti Culture*. Unpublished PhD diss. Columbia University.
- . 1977 'The chronology of the Middle Bronze Age Kurgans at Trialeti', in *Mountains and Lowlands: Essays in the Archaeology of Greater Mesopotamia*, edited by L. D. Levine and T. C. Young, Jr., pp. 235–250. Bibliotheca Mesopotamica 7. Malibu: Undena Publications.
- . 1999 'A note on the Trialeti goblet', in *National Treasure of Georgia*, edited by O.Z. Soltes, p. 66. London: Peter Wilson Publishers and The Foundation for International Arts and Education.
- . 2001 'Metal vessels with basket handles at Trialeti', in *Caucasus: Essays on the Archaeology of the Neolithic-Bronze Age (Dedicated to the 80th Birthday of Prof. Otar Japaridze)*, edited by B. Maisuradze and R. Rusishvili, pp. 123–124. Dzeban Supplement 7. Tbilisi: The Centre for Archaeological Studies of the Georgian Academy of Sciences.
- . 2003 'Silver vessels and cylinder sealings: Precious reflections of economic exchange in the early second millennium BC', in *Archaeology in the Borderlands: Investigations in Caucasia and Beyond*, edited by A. T. Smith and K. Rubinson, pp. 128–143. Los Angeles: Cotsen Institute Press.
- Rumyantsev, E. A. 1961 'Restavratsia i konservatsia drevnikh derevyannikh pozovok iz Zakavkazya i Altaya', *Sovetskaja Arkheologija* 1: 236–242.
- Ryan, W and Pitman, W. 1998 *Noah's Flood: The New Scientific Discoveries about the Event that Changed History*. New York: Simon & Schuster.
- Sadradze, V. 1997 *Pamiatniki Bronzovoi Epokhi Samtavrskogo: Samtavros Samarovnis Brindjaos Khanis Dzeglebi: Shida Kartlis Dzeglebis Kronologia-Periodizatsiis Sakitkhebi*. Metsniereba: Tbilisi. (In Georgian).
- . 2002 *Arkeologicheskie pamiatniki Mtskheta i okrestnostei btorgo i perboi poloviny pervogo tysiacheletii do N. E.* Tbilisi: Metsniereba. (In Georgian with Russian summary).
- Safronov, V. A. 1989 *Indoeuropeiskie prarodiny. Gorkii: Volgo-Viatskoe knizhnoe izd-vo*.
- Sagona, A. 1984 *The Caucasian Region in the Early Bronze Age* (British Archaeological Reports, International Series 214), 3 vols. Oxford: British Archaeological Reports.
- . 1993 'Settlement and society in early prehistoric Trans-Caucasus', in *Between the Rivers and Over the Mountains: Archaeologica Anatolica et Mesopotamica Alba Palmieri Dedicata*, edited by M. Frangipane, H. Hauptmann, M. Liverani, P. Matthiae, and M. Mellink, pp. 453–474. Rome: Dipartimento di Scienze Storiche Archeologiche e Antropologiche dell'Antichità, Università di Roma.
- . 1994a *The Aşvan Sites 3: Keban Rescue Excavations, Eastern Anatolia. The Early Bronze Age* (British Institute of Archaeology at Ankara, Monograph 18). London and Ankara: British Institute of Archaeology at Ankara.
- . 1994b 'The quest for red gold', in *Bruising the Red Earth: Ochre Mining and Ritual in Aboriginal Tasmania*, edited by A. Sagona, pp. 8–38. Parkville.: Melbourne University Press.
- . 1998 'Social identity and religious ritual in the Kura-Araxes cultural complex: Some observations from Sos Höyük', *Mediterranean Archaeology* 11: 13–25.
- . 2000 'Sos Höyük and the Erzurum region in late prehistory: A provisional chronology for northeast Anatolia', in *Chronologies des pays du Caucase et de l'euphrate aux IV^e–III^e millénaires: Actes du colloque d'Istanbul, 16–19 décembre 1998*, edited by C. Marro and H. Hauptmann, pp. 329–337. Paris: De Boccard.
- . 2004 'Social boundaries and ritual landscapes: The late prehistory of Trans-Caucasus', in *A View from the Highlands: Archaeological*

- Studies in Honour of Charles Burney* (Ancient Near Eastern Studies Supplement 12), edited by A. Sagona, pp. 485–549. Louvain: Peeters.
- . 2010 ‘Past and present directions in the archaeology of the Trans-Caucasus’, *Journal of Archaeology of the Turkish Academy of Sciences / Türkiye Bilimler Akademisi Arkeoloji Dergisi* 13: 143–157.
- . 2011 ‘Anatolia and the Trans-Caucasus: Themes and variations (ca. 6400–1500 BC)’, in *Oxford Handbook of ancient anatolia*, edited by S. Steadman and G. MacMahon, pp. 683–703. Oxford: Oxford University Press.
- . 2013 ‘Wagons and carts of the Trans-Caucasus’, in *M. Taner Târan Armağanı / Festschrift for M. Taner Târan*, edited by O. Tekin, M. H. Sayar, and E. Konyar, pp. 277–297. Istanbul: Arkeoloji ve Sanat.
- . 2014a ‘Rethinking the Kura-Araxes Genesis’, *Paléorient* 40 (2): 21–44.
- . 2014b ‘The Kura-Araxes culture complex: A history of early research’, in *SCRIPTA: Arkeolojiyle Geçen Bir Yaşam İçin Yazılar Veli Sevin’e Armağan / SCRIPTA: Essays in Honour of Veli Sevin. A Life Immersed in Archaeology*, edited by A. Özfirat, pp. 21–32. Istanbul: Ege Yayınları.
- Sagona, A., Nikolaishvili, V., Sagona, C., Ogleby, C., Pilbrow, V., Giunashvili, G., and Manegladze, G. 2010 ‘Bridging two continents: Renewed investigations at Samtavro, Georgia’, *Türkiye Bilimler Akademisi Arkeoloji Dergisi* 13: 313–334.
- Sagona, A. and Sagona, C. 2000 ‘Excavations at Sos Höyük, 1998 to 2000: Fifth preliminary report’, *Ancient Near Eastern Studies* 37: 56–127.
- . 2004 *Archaeology at the North-East Anatolian Frontier*. Vol. 1. *An Historical Geography and a Survey of the Bayburt Province*. Louvain: Peeters.
- Sagona, A., Sagona, C. and Michalewicz, A. in press ‘Alans in the Southern Caucasus?’, in *Comparative Studies of Ancient and Medieval Eurasian Empires*, edited by H. J. Kim, F. Vervaeke, and S. Adalı, pp. 205–250. Cambridge: Cambridge University Press.
- Sagona, A. and Zimansky, P. 2009 *Ancient Turkey*. London: Routledge.
- Sagona, C. 1999 ‘An archaeological survey of the Erzurum province, 1999’, *Ancient Near Eastern Studies* 36: 108–135.
- Sagona, C. and Sagona, A. 2009 ‘Encounters with the divine in the late prehistoric period of eastern Anatolia and southern Caucasus’, in *Studies in Honour of Altan Cilingiroglu. A Life Dedicated to Urartu, on the Shores of the Upper Sea*, edited by H. Saglamtimur, E. Abay, Z. Derin, A. Ü. Erdem, A. Batmaz, F. Dedeoğlu, M. Erdalkiran, M. B. Baştürk, and E. Konakcı, pp. 537–563. Istanbul: Arkeoloji ve Sanat.
- . In press. ‘The life of an object: The distribution of banded agate from the distant Caucasus to Malta’, in *“What Mean These Stones?” (Joshua 4:6, 21): Essays on Texts, Philology, and Archaeology in Honour of Anthony J. Frendo* (Ancient Near Eastern Studies Supplement 50), edited by D. Mizzi, N. Vella, and M.R. Zammit. Leuven: Peeters Press.
- Santrot, J. 1996 *Arménie: Trésors de l’Arménie Ancienne des Origines au IV^e Siècle*. Paris: Somogy.
- Sapouna-Sakellarakis, E. 1978 *Die Fibeln der Griechischen Inseln (Prähistorische Bronzefunde 4)*. Munich: Beck.
- Sardarian, S. A. 1967 *Pervobytnoe Obshchestvo v Armenii / Primitive Society in Armenia*. Yerevan: Akademiia Nauk Armianskoi SSR. (In Armenian with Russian and English summaries).
- Saxe, A. 1970 *Social Dimensions of Mortuary Practices*. Ph.D dissertation. University of Michigan.
- Scarre, C. 2002 ‘Context of monumentalism: Regional diversity at the Neolithic transition in north-west France’, *Oxford Journal of Archaeology* 21: 23–62.
- Schachner, A. 1999 *Von der Rundhütte zum Kaufmannshaus: Kulturhistorische Untersuchungen zur Entwicklung prähistorischer Wohnhäuser in Zentral-, Ost- und Südostanatolien* (British Archaeological Reports International Series 807). Archaeopress: Oxford.
- . 2001 ‘Azerbaycan: Eine terra incognita der Vorderasiatische Archäologie’, *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin* 133: 251–332.
- Schaeffer, C. F. A. 1943 ‘La date des kourganes de Trialeti’, *Antiquity* 17: 183–187.
- . 1944a ‘Archaeological discoveries in Trialeti – Caucasus’, *Journal of the Royal Asiatic Society* 1: 25–29.
- . 1944b ‘In the wake of the ‘Argo’, *Man* 44: 43–45.
- . 1948 *Stratigraphie Comparée et Chronologie de l’Asie Occidentale: III^e et II^e Millénaires (Syrie, Palestine, Asie Mineure, Chypre, Perse et Caucase)*. London: Oxford University Press.
- Schiffer, M. B. 1987 *Formation Processes of the Archaeological Record*. Albuquerque: University of New Mexico Press.

- Schmidt, E. F. 1937 *Excavations at Tepe Hissar, Damghan*. Philadelphia: The University Museum, University of Pennsylvania Press.
- Schmidt, K. 1996 *Norşuntepe Kleinfunde I: Die lithische Industrie*. Mainz: Philipp von Zabern.
- Schwartz, G. M. 2007 'Status, ideology and memory in third millennium Syria. "Royal Tombs" at Umm el-Marra', in *Performing Death: Social Analyses of Funerary Traditions in the Ancient Near East and the Mediterranean* (Oriental Institute Seminars, 3), edited by N. Laneri, pp. 39–68. Chicago: The Oriental Institute of the University of Chicago.
- Schwartz, J. H. and Tattersall, I. 2002 *The Human Fossil Record: Vol. 1. Terminology and Craniodental Morphology of Genus Homo (Europe)*. New York: Wiley-Liss.
- Selimkhanov, I. R. and Mareshal, Z. R. 1966 'O rannikh etapakh drevnei metallurgii medi na territorii Evropy i Kavkaza v svete novykh poniatii i rezultatov analiza', in *Doklady i soobshcheniia arkheologov SSSR. (7-y Mezhdunarodnyi kongress doistorikov i protoistorikov)*, edited by B. A. Rybakov, pp. 138–147. Moscow: Nauka.
- Shanshashvili, N. 2010 'Sites of the Kura-Araxes culture in Trialeti', in *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 161–184. Tbilisi: Georgian National Museum.
- . 2013 'Painted pottery of the Kura-Araxes culture from the south Caucasus', *Dziebani* 21: 110–128. (In Georgian with English summary).
- Shatberashvili, Z., Shatberashvili, V., and Nikolaishvili, V. 2010 'Bronze Age burials at Tqemlari', in *Rescue Archaeology in Georgia: The Baku-Tbilisi-Ceyhan and South Caucasian Pipelines*, edited by G. Gamkrelidze et al., pp. 194–206. Tbilisi: Georgian National Museum.
- Shelov, D. B. (ed.) 1983 *Metodika Polevykh Arkheologicheskikh Issledovaniy: Akademiia Nauk SSSR*. Moscow: Nauka.
- Sherratt, A. 1981 'Plough and pastoralism: Aspects of the secondary products revolution', in *Pattern of the Past: Studies in Honour of David Clarke*, edited by N. Hammond, I. Hodder, and G. Isaac, pp. 261–305. Cambridge: Cambridge University Press.
- . 1990 'The genesis of megaliths: Monumentality, ethnicity and social complexity in Neolithic north-west Europe', *World Archaeology* 22: 147–167.
- . 1993 'What would a Bronze-Age World System look like? Relations between temperate Europe and the Mediterranean in later prehistory', *Journal of European Archaeology* 1(2): 1–57.
- . 2004 'Wagen, Pflug, Rind: Ihre Ausbreitung und Nutzung – Probleme der Quelleninterpretation', in *Rad und Wagen. Der Ursprung einer Innovation; Wagen im Vorderen Orient und Europa. Ausstellung vom 28. März bis 11. Juli 2004* (Beiheft der Archäologische Mitteilungen aus Nordwestdeutschland 40), edited by M. Fansa and S. Burmeister, pp. 409–428. Mainz am Rhein: Verlag Philipp von Zabern.
- . 2006a 'Animal traction and the transformation of Europe', in *ArchAtlas*, <http://www.archatlas.dept.shef.ac.uk/people/Frasnois.pdf>, Accessed: 05 November 2015
- . 2006b 'La traction animale et la transformation de l'Europe Néolithique', in *Première chariots, première araires: la diffusion de la traction animale en Europe pendant les IV^e et III^e millénaires avant notre ère* (CRA Monographs 29), edited by P. Pétrequin, R. M. Arbogast, A. M. Petrequin, S. van Willigen, and M. Bailly, pp. 329–360. Paris: CNRS.
- Shilov V. P. 1984 'Raboty Volgo-Donskoy Ekspeditsii', *Arkheologicheskie Otkrytiia* 1982: 185–186.
- Shnirelman, V. A. 2001 *The Value of the Past: Myths, Identity and Politics in Transcaucasia* (Senri Ethnological Studies 57). Osaka: National Museum of Ethnology.
- Shortland, A. J. and Bronk-Ramsey, C. (eds.) 2013 *Radiocarbon and the Chronologies of Ancient Egypt*. Oxford & Oakville: Oxbow.
- Simonian, A. E. 1983 'Mogilnik Epokhi Bronzy Verin Naver / The Bronze Age cemetery of Verin Naver', *Kratkie Soobshcheniia Instituta Arkheologii* 176: 90–96.
- . 1984 'Dva pogrebeniia epokhi srednei bronzy mogilnika Verin Naver', *Sovetskaiia Arkheologiia* 3: 122–135.
- Simonyan, H. and Rothman, M. S. 2015 'Regarding ritual behaviour at Shengavit, Armenia', *Ancient Near Eastern Studies* 52: 1–46.
- Skakov, A. Iu. 1998 'Ob odnoi iz gruppi Kobano-Kolkhidskikh ornamentirovannykh toporov', *Istoriko-Arkheologicheskii Al'manakh* 4: 12–26.
- Smith, A. T. 2005, 'Prometheus unbound: southern Caucasia in prehistory', *Journal of World Archaeology* 19: 229–279.

- . 2015 *The Political Machine: Assembling Sovereignty in the Bronze Age Caucasus*. Princeton, NJ: Princeton University Press.
- Smith, A. T., Badalyan, R. S., and Avetisyan, P. 2009 *The Archaeology and Geography of Ancient Transcaucasian Societies*, Vol. 1. *The Foundations of Research and Regional Survey in the Tsaghkahovit Plain, Armenia* (Oriental Institute Publications 134). Chicago: The Oriental Institute of the University of Chicago.
- Smith, A. T., Badalyan, R., Avetisyan, P., and Zardaryan, M. 2004 'Early complex societies in southern Caucasus: A preliminary report on the 2002 investigations by Project ArAGATS on the Tsakahovit Plain, Republic of Armenia', *American Journal of Archaeology* 108(1): 1–41.
- Smith, A. T. and Leon, J. F. 2014 'Divination and sovereignty: The Late Bronze Age shrines at Gegharot, Armenia', *American Journal of Archaeology* 118: 549–563.
- Smith, A. T. and Thompson, T. T. 2004 'Urartu and the Southern Caucasian political tradition', in *A View from The Highlands: Archaeological Studies in Honour of Charles Burney*, edited by A. Sagona (Ancient Near Eastern Studies Supplement 12), pp. 553–580. Leuven: Peeters.
- Smogorzewska, A. 2004 'Andirons and their role in the Early Transcaucasian Culture', *Anatolica* 30: 151–177.
- Snodgrass, A. 1980 'Iron and early metallurgy in the Mediterranean', in *The Coming of the Age of Iron*, edited by T. A. Wertime and J. D. Muhly, pp. 335–374. New Haven, CT: Yale University Press.
- Solov'ev, L. N. 1958 'Novyi pamiatnik kul'turnykh svyazei Kavkazskogo Prichernomoria v epokhu neolita i bronzy – Stoiarki Vorontsovskoi peshchery', *Tr. Abkhazskii Institut iazyka, literatury i istorii im. D. I. Gulia* 29: 135–184.
- . 1960 'Nadpisi I izobrazheniia grota Agtsa y sel. Anykhva-Abkhazckaia', *Materialy i issledovaniya po arkheologii SSSR* 79: 164–175.
- . 1967 'Neoliticheskie poseleniia Chernomorskogo poberezh'ia Kavkaza: Nizhne-Shilovckoe i Kistrik', *Materialy po Arkheologii Abkhazii*, pp. 3–38. Tbilisi: Metsniereba.
- Soltes, O. Z. (ed.) 1999 *National Treasures of Georgia*. London: Peter Wilson Publishers and The Foundation for International Arts and Education.
- Sovetskaia Arkheologicheskaiia Literatura: Bibliografiia Ukazatel'*, Vols 1–8 1965–1999 (covering 1918–1940, 1941–1957, 1958–1962, 1963–1967, 1968–1972, 1973–1975, 1976–1978, and 1979–1981). Leningrad: Akademii nauk SSSR, Biblioteka Akademii nauk SSSR, Institut arkheologii; and Saint Petersburg: RAN for 1979–1981.
- Spasovskii, I. N. 2008 'Rezultaty opredeleniia osteologicheskikh sborov iz poselenii maikopskoi kul'tury 'Novosvobodenskoe' i 'Pkhagupae', in *Arkheologiia Kabkaza i Blizhnego Vostoka. Sbornikh k 80-letiiu Profesora R. M. Munchaeva*, pp. 256–258. Moscow: Taus.
- Sprague, R. 2005 *Burial Terminology: A Guide for Researchers*. Lanham, MD: AltaMira Press.
- Steadman, S. R. and McMahon, G. (eds.) 2011 *The Oxford Handbook of Ancient Anatolia*. Oxford: Oxford University Press.
- Stevanović, M. 1997 'The age of clay: Social dynamics of house destruction', *Journal of Anthropological Archaeology* 16: 334–395.
- Stevens, F. 2011 'Visual collision? Prehistoric rock art and graffiti in an Armenian landscape', in *From Archaeology to Archaeologies*, edited by A. Stefanou and A. Simandiraki-Grimshaw, pp. 93–101. Oxford: BAR International Series.
- Stöllner, T. 2016 'The beginnings of social inequality: Consumer and producer perspectives from Transcaucasia in the 4th and the 3rd millennia BC', in *Von Baden bis Troia. Ressourcennutzung, Metallurgie und Wissenstransfer. Eine Jubiläumsschrift für Ernst Pernicka* (Oriental and European Archaeology 3), edited by M. Bartelheim, B. Horejs, and R. Krauß, pp. 209–234. Rahden: Verlag Marie Leidorf GmbH.
- Stöllner, T. and Gambashidze, I. 2011 'Gold in Georgia I: The oldest gold mine in the world', in *Anatolian Metals V (Der Anschnitt 24/ Veröffentlichungen aus dem Deutschem Bergbaumuseum 180)*, edited by Ü. Yalçın, pp. 187–198. Bochum: Deutsches Bergbau-Museum.
- . 2014 'The gold mine of Sakdrisi and the earliest mining and metallurgy in the Transcaucasus and the Kura-Valley system', *Proceedings of the International Conference on the Problems of Early Metal Age Archaeology of Caucasus and Anatolia, November 19–23, 2014, Georgia*, edited by G. Narimanishvili, pp. 102–124. Tbilisi.
- Stöllner, T., Gambašize, I., Hauptmann, A., Mindiašvili, G., Gogočuri, G., and Steffens, G. 2010 'Goldbergbau in Südostgeorgien C Neue Forschungen zum frühbronzezeitlichen Bergbau in Georgien', in *Von Majkop bis*

- Trialeti: *Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 103–138. Bonn: Dr Rudolf Habelt GmbH.
- Stronach, D. 1959 'The development of the fibula in the Near East', *Iraq* 21(2): 180–206.
- Struve, K.W. 1955 *Die Einzelgrabkultur in Schleswig-Holstein und ihre kontinentalen Beziehungen* (Offa-Bücher Vol. 11). Neumünster: Wachholtz.
- Stuiver, M. and Kra, R. S. 1986 'Editorial comment', *Radiocarbon*, 28(2B): ii.
- Stuiver, M. and Polach, H. A. 1977 'Reporting of ^{14}C data', *Radiocarbon* 19: 355–363.
- Stuiver, M. and Reimer, P. J. 1986 'A computer program for radiocarbon age calculation', *Radiocarbon* 28: 1022–1030.
- Sulava, N. 2005 'Die kaukasishchen Fibeln', in *Georgien – Schätze aus dem Land des Goldenen Vlies: Tagungsband zum Kolloquium 2/3. Dezember 2002, Wiesbaden*, edited by I. Gambaschidze, A. Hauptmann, R. Slotka, and Ü. Yalçın, pp. 88–102. Bochum: Deutsches Bergbau Museums.
- Sultanishvili, I. 2008 'Transcaucasian horse bits in the Late Bronze Age and Early Iron Age', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 379–396. Leuven: Peeters.
- Summers, G. D. 2013a *Yanik Tepe, Northwestern Iran: The Early Trans-Caucasian Period. Stratigraphy and Architecture* (Ancient Near Eastern Studies Supplement 41). Leuven: Peeters Publishers.
- . 2013b 'The Early Bronze Age in north-western Iran', in *The Oxford Handbook of Ancient Iran*, edited by D.T. Potts, pp. 161–178. Oxford: Oxford University Press.
- . 2014 'The Early Trans-Caucasian culture in Iran: Perspectives and problems', *Paléorient* 40(2): 155–168.
- Swiny, S. 1975 'Survey in North West Iran, 1971', *East and West* 25: 77–99.
- Szmyt, M. 2010 *Between West and East: People of the Globular Amphora Culture in Eastern Europe: 2950–2350 BC* (Baltic-Pontic Studies 8). Poznań: Baltic-Pontic Studies.
- Takaishvili, E. 1913 'O Sachkherском кургане Шоропанского у', *Izvestiia Kavkazskogo otdeleniia Moskovskogo Arkheologicheskogo obshchestva* 3(1): 167–172. Tiflis.
- Tappen, M., Lordkipanidze, D., Ferring, R., Bukhsianidze, M., and Vekua, A. 2007 'Are you in or out (of Africa): Site formation at Dmanisi and actualistic studies in Africa', in *Breathing Life into Fossils: Taphonomic Studies in Honor of C. K. (Bob) Brain*, edited by T. R. Pickering, K. Schick, and N. Toth, pp. 119–137. Gosport, IN: Stone Age Institute press.
- Tedesco, L. 2006 'Refining the definition of technology in the southern zone of the Circumpontic Metallurgical Province', in *Beyond the Steppe and the Sown. Proceedings of the 2002 University of Chicago Conference on Eurasian Archaeology* (Colloquia Pontica 13), edited by D. L. Peterson, L. M. Popova, and A. T. Smith, pp. 310–321. Leiden: Brill.
- Tekhov, B. V. 1957 *Pozdnebronzovaya Kul'tura Liakhskogo Basseinia: (Drevnii mozilnik v b. Tli)*. Stalinir: Gosizdat IUgo-osetii.
- . 1971 *Ocherki drevnei istorii i arkheologii Iugo-Osetii*. Tbilisi: Metsniereba.
- . 1977 *Tsentral'nyi Kavkaz v XVI–X vv. do N. E.* Moscow: Nauka.
- . 1980 *Tliiskii mogil'nik* 1. Tbilisi: Metsniereba.
- . 1981 *Tliiskii mogil'nik* 2. Tbilisi: Metsniereba.
- . 1985 *Tliiskii mogil'nik* 3. Tbilisi: Metsniereba.
- . 2000 *Novyi pamiatnik epokhi pozdnei bronzy v Iuzhnoi Osetii: styrfazskie kromlekhi. Vladikavkaz*. Tsinvali: Severo-Osetinskiia nauchnyii tsentr.
- . 2002 *Tayni drevnikh pogrebenii. Vladikavkaz*: Proekt-Press.
- Terenozhkin, A. I. 1976 *Kimmeritsy*. Kiev: Naukova dumka.
- Todd, I. A. 1973 'Anatolia and the Khirbet Kerak problem', in *Orient and Occident: Essays Presented to Cyrus H. Gordon on the Occasion of His Sixty-Fifth Birthday*, edited by H.A. Hoffner, pp. 181–206. Kevelaar: Butzon and Bercker; Keukirchen-Bluyne: Neukirchener Verlag.
- Toms, J. 2006 'Pithecan gleanings III: Fibulae as keys to dating the Early Iron Age in central Italy', in *Across Frontiers: Etruscan, Greeks, Phoenicians & Cypriots: Studies in Honour of David Ridgway & Francesca Romana Serra Ridgway* (Accordia Specialist Studies on the Mediterranean, 6), edited by E. Herring, I. Lemos, F. Lo Schiavo, L. Vagnetti, R. Whitehouse, and J. Wilkins, pp. 281–296. London: Accordia Research Institute, University of London.

- Torosian, R. M. 1976 *Rannezemledelcheskoe poselenie Tekhuta*. Erevan: Izdatelstvo Akademii Nauk Armianskoi SSR. (In Armenian with Russian summary).
- Toth, N. and Shick, K. 2009 'The Oldowan: The tool making of early hominins and chimpanzees compared', *Annual Review of Anthropology* 38: 289–305.
- Trifonov, V. A. 1987a 'Nekotorye voprosy prednazhatskikh svyazei maikopskoi kul'tury', *Kratkie Soobshcheniia Instituta Arkheologii* 192: 18–26.
- . 1991 'Stepnoe prikuban'e v epokhu eneolita – Srednei bronzy (periodizatsia)', in *Drevnie kul'tury Prikuban'ia. (Po materialam arkheologicheskikh rabot v zonakh melioratsii Krasnodarskogo Kraia)*, edited by V. M. Masson, pp. 92–166. Leningrad: Nauka.
- . 2001 'Chto my znaem o dol'menakh Zapadnogo Kavkaza?', in *Dol'meny. Sovremenniki Drevnikh: Megality Zapadnogo Kavkaza IV–II Tysiacheletii do n.e.*, edited by Y. Piotrovsky, pp. 20–54. Krasnodar: Krasnodarskoe knizhnoe izd-vo.
- . 2004 'Die Majkop-Kultur und die ersten Wagen in der südrussischen Steppe', in *Rad und Wagen. Der Ursprung einer Innovation; Wagen im Vordenen Orient und Europa. Ausstellung vom 28. März bis 11. Juli 2004*. (Beiheft der Archäologische Mitteilungen aus Nordwestdeutschland 40), edited by M. Fansa and S. Burmeister, pp. 167–176. Verlag Philipp von Zabern: Mainz am Rhein.
- . 2009a 'Dol'meny v doline Zhane', in *Arkheologicheskie otkrytiya 1991–2004. Evropeiskaya Rossiya*, edited by N. A. Makarov, pp. 115–128. Moscow: Institute of Archaeology, Russian Academy of Sciences.
- . 2009b 'Dolmen v p. Dzhubga (predvaritel'nye rezultaty issledovaniia)', *Vestnik Rossiiskogo Nauchnogo Gumanitarnogo Fonda* 1 (54): 152–162.
- . 2013 'What distinguishes Caucasian megaliths from European Ones?' in *Counterpoint: Essays in Archaeology and Heritage Studies in Honour of Professor Kristian Kristiansen* (BAR International Series, 2508), edited by S. Bergerbrant and S. Sabatini, pp. 321–328. Oxford: Archaeopress.
- . 2014 'Zapadnye predely rasprostraneniia maikopskoi kul'tury', in *Izvestiia Samarskogo Nauchnogo Tsentra Rossiiskoi Akademii Nauk* 16 (3): 276–284.
- Trifonov, V. A., Zaitseva, G. I., van der Plicht, J., Bourova, N. D., Bogomolov, E. S., Sementsov, A. A., and Lokhova, O. V. 2012 'The dolmen Kolikho, western Caucasus: Isotopic investigation of funeral practice and human mobility', *Radiocarbon* 54(3–4): 761–769.
- Trifonov, V. A., Zaitseva, G. I., van der Plicht, J., Kraineva, A. A., Sementsov, A. A., Kazarnitsky, A., Burova, N. D., and Rishko, S. A. 2014 'Shepsi, the oldest Dolmen with port-hole slab in the Western Caucasus', *Radiocarbon* 56 (2): 1–10.
- Trigger, B. G. 1989 *A History of Archaeological Thought*. Cambridge: Cambridge University Press.
- . 1993 'Marxism in contemporary archaeological thought', *Archaeological Method and Theory* 5: 159–200.
- Trinkaus, E. and Shipman, P. 1993 *The Neandertals: Changing the Image of Mankind*. London: Jonathan Cape.
- Tsetskhladze, G. R. 2010/2011 'The Greeks in Colchis revisited', *Il Mar Nero* 8: 295–308.
- Tsitlanadze, L. 2008 'Mchadijvari Gora', in *Archaeology in Southern Caucasus: Perspectives from Georgia* (Ancient Near Eastern Studies Supplement 19), edited by A. Sagona and M. Abramishvili, pp. 185–203. Leuven: Peeters.
- Tsitsishvili, A. L. 1969 'Kostnye ostatki zhivotnykh iz Shulaveri', *Arkheologicheskie Ekspeditsii Gosudarstvennogo Muzeia Gruzii Akademii Nauk Gruzinskoi SSR* 1: 27–34.
- Tumanian, G. S. 2012 *Agarak I: Rannebronzovoe poselenie (2001–2008)*. Erevan: NAS RA 'Gitutun'.
- Turner, V. W. 1969 *The Ritual Process: Structure and Anti-Structure*. London: Routledge and Kegan Paul.
- Tushabramishvili, N., Lordkipanidze, D., Vekua, A., Tvalcherlidze, M., Muskhelishvili, A., and Adler, D. S. 1999 'The Middle Palaeolithic rockshelter of Ortvale Klde, Imereti region, the Georgian republic', *Préhistoire Européenne* 15: 65–77.
- Twomey, T. 2013 'The cognitive implications of controlled fire use by early humans', *Cambridge Archaeological Journal* 23: 113–128.
- Uerpmann, M. and Uerpmann, H.-P. 2010 'Zug- und Lasttiere zwischen Majkop und Trialeti', in *Von Majkop bis Trialeti: Gewinnung und Verbreitung von Metallen und Obsidian in Kaukasien im 4.–2. Jt. v. Chr. Beiträge des Internationalen Symposiums in Berlin vom 1.–3. Juni 2006*, edited by S. Hansen, A. Hauptmann, I. Motzenbäcker, and E. Pernicka, pp. 237–251. Bonn: Dr Rudolf Habelt GmbH.

- Uvarova, P. S. 1900 'Mogil'niki Severnogo Kavkaza', *Materialy po arkheologii Kavkaza* 8. Moscow: Tip. Mammontova.
- Vaidov, R. M. and Narimanov, I. G. 1967 'Razvitie arkheologicheskoi nauki v sovetskom Azerbaidzhane', *Sovetskaya Arkheologiya* 4: 48–61.
- Val'chak, S. B. 1997a 'Predeskifskie koleznitsy I "noboherkasskie klady" (nekotorye dopolneniia k problem)', in 'Pamiatniki Predskifskogo i Skifskogo Vremeni ba iuge Bostochnoi Evropy', *Materialy i Issledovaniia po Arkheologii Rossii* 1: 40–56.
- . 1997b 'Predeskifskaya uzda Vostochnoi Evropy uzdechnye komplekty c trekhpetel'chatymi psaliimi (klassifikatsiia i khronologiya)', in *Drevnosti Evrazii: sbornik statei*, edited by C. B. Demidenko and V. Zhuravlev, pp. 88–119. Moscow: Gos. istoricheskii muzei.
- Van der Leeuw, S. E. and McGlade, J. (eds.) 1997 *Archaeology: Time, Process and Structural Transformations*. London: Routledge.
- Van Gennep, C.-A. 1960 *The Rites of Passage*. Translated by M. B. Vizedom and G. L. Caffee. Chicago: University of Chicago Press.
- Varazashvili, V. 1992 *Rannezemledel'cheskaiia kul'tura Iori-Alazanskogo Basseina/The Early Farming Culture of the Iori-Alazani Basin*. Tbilisi: Metsniereba.
- Varazashvili, V. and Kachkachuri, V. 1987 'Chikhisqqlis gorasamarkhi', *Soobshcheniia Akademii Nauk Gruzinskoi SSR* 125 (1): 185–187.
- Vavilov, N. I. 1992 *Origin and Geography of Cultivated Plants* (trans. Doris Löve). Cambridge: Cambridge University Press.
- Vekua, A., Lordkipanidze, D., Rightmire, G. P., Agusti, J., Ferring, R., Maisuradze, G., De Lumley, M. A., Gabounia, L., Vekua, A., and Lordkipanidze, D. 2006, 'Les restes Humains du Pliocène final et du début du Pléistocène inférieur de Dmanisi, Géorgie (1991–2000)' Les crânes, D 2280, D 2282, D 2700 *L'Anthropologie* 110 (1): 1–110.
- Veselovskii, N. I. 1897 [1997] 'Kubanskaia oblast', *Otchet Arkheologicheskoi Komisii*, Saint Petersburg, reprinted as 'Otchet N. I. Veselovskogo o raskopkakh Maikopskogo kurgana v 1897 g.', in *Drevnie obshchestva Kavkaza v epokhu paleometalla: rannie kompleksnye obshchestva i voprosy kul'turnoi Transformatsii*, pp. 44–48. Saint Petersburg: Institut Istorii
- Material'noi Kul'tury Rossiiskoi Akademii Nauk.
- . 1900a 'Maikopskii kurgan', *Otchet' imperatorskoi arkheologicheskoi komisii za 1897 goda*, pp. 2–11.
- . 1900b 'Staromyshastovskaia', *Otchet' imperatorskoi arkheologicheskoi komisii za 1897 goda*, pp. 64–65.
- . 1901 'Stanitsa Tsarskaia', *Otchet' imperatorskoi arkheologicheskoi komisii za 1898 goda*, pp. 33–39.
- Virchow, R. 1883 *Das Graberfeld von Koban im Lande der Osseten, Kaukasus: eine vergleichend-archäologische Studie Text*. Berlin: A. Asher & Co.
- Volodicheva, N. 2002 'The Caucasus', in *The Physical Geography of Northern Eurasia*, edited by M. Shahgedanova, pp. 350–376. Oxford: Oxford University Press.
- Voronov, Iu. N. 1979 *Drevnosti Sochi i ego okrestnostei*. Krasnodar: Krasnodarskoe knizhnoe izd-vo.
- . 1984 'Vostochnoe Prichernomor'e v zheleznom veke (Voprosy khronologii I interpretatsii pamiatnikov VIII v. do n. e. – VIII v. n. e.)', *Avtoreferat dissertatsii na soiskanie uchennoi stepeni doktora istoricheskikh nauk*. Moscow: Institut arkheologii Akademii nauk SSSR.
- Weik T. M. 2014 'The archaeology of ethno-genesis', *Annual Review of Anthropology* 43: 291–305.
- Wells, P. S. 2012 'The Iron Age', in *European Prehistory: A Survey*, edited by S. Milisauskas, pp. 335–383. New York: Springer.
- Wengrow, D. 2010 *What Makes Civilization? The Ancient Near East and the Future of the West*. Oxford: Oxford University Press.
- Whallon Jr., R. 1979 *An Archaeological Survey of the Keban Reservoir Area of East-Central Turkey* (Memoirs of the Museum of Anthropology, University of Michigan 11). Ann Arbor: University of Michigan, Museum of Anthropology.
- Whallon Jr., R. and Kantman, S. 1969 'Early Bronze Age development in the Keban Reservoir, East-Central Turkey', *Current Anthropology* 10 (1): 128–133.
- Whitley, D. S. 2011 *Introduction to Rock Art Research*, 2nd ed. Walnut Creek, CA: Left Coast Press.
- Wilkinson, K. N., Gasparian, B., Pinhasi, R., Avetisyan, P., Hovsepyan, R., Zardaryan, D.,

- Areshian, G. E., Bar-Oz, G., and Smith, A. 2012 'Areni-1 Cave, Armenia: A Chalcolithic–Early Bronze Age settlement and ritual site in the southern Caucasus', *Journal of Field Archaeology* 37 (1): 20–33.
- Wilkinson, T. C. 2014a *Tying the Threads of Eurasia: Trans-regional Routes and Material Flows in Transcaucasia, Eastern Anatolia and Western Central Asia, c. 3000–1500 BC*. Leiden: Sidestone Press.
- . 2014b 'The Early Transcaucasian phenomenon in structural-systemic perspective: Cuisine, craft and economy', *Paléorient* 40 (2): 203–229.
- Winter, I. J. 2002 'Defining "aesthetics" for non-western studies: The case of ancient Mesopotamia', in *Art History, Aesthetics, Visual Studies*, edited by M. A. Holly and K. P. F. Moxey, pp. 3–28. Williamstown, MA: Sterling and Francine Clark Art Institute, and New Haven, CT: Yale University Press.
- Wright, J. D., 2000 'Global climate change in marine stable isotope records', in *Quaternary Geochronology: Methods and Applications*, edited by J. S. Noller, J. M. Sowers, and W. R. Lettis, pp. 427–433. Washington, DC: American Geophysical Union.
- Yakar, J. 1985 *The Later Prehistory of Anatolia: the Late Chalcolithic and Early Bronze Age* (BAR International Series, 268). Oxford: British Archaeological Reports.
- Yakar, J. and Gürsan-Salzman, A. 1979 'Archaeological survey in the Malatya and Sivas Provinces – 1977', *Tel Aviv* 6: 34–53.
- Yalçın, H. G. 2011 'Die Karaz-kultur in Ostanatolien', in *Anatolian Metals V (Der Anschnitt 24 / Veröffentlichungen aus dem Deutschen Bergbau-Museum 180)*, edited by Ü. Yalçın, pp. 31–51. Bochum: Deutsches Bergbau-Museum.
- . 2012 *Die Karaz: Keramik von Tepecik in Ostanatolien*. Istanbul: Ege Yayınları.
- Young, T. C. Jr. 2004 'The Kangavar survey – Periods VI to IV', in *A View from The Highlands: Archaeological Studies in Honour of Charles Burney*, edited by A. Sagona (Ancient Near Eastern Studies Supplement 12), pp. 645–660. Leuven: Peeters.
- Yule, P. 1997 'The copper hoards of northern India', *Expedition* 19(1): 22–32.
- Yunusbayev, B., Metspalu, M., Järve, M., Kutuev, I., Rootsi, S., Metspalu, E., Behar, D. M., Varendi, V., Sahakyan, H., Khusainova, R., Yepiskoposyan, L., Khusnutdinova, E. K., Underhill, P. A., Kivisild, T., and Villems, R. 2012 'The Caucasus as an asymmetric semipermeable barrier to ancient human migrations', *Molecular Biology and Evolution* 29(1): 359–365.
- Zadneprovskaja, T. N. 2003 *Russkaia Arkheologicheskaja Literatura: Bibliografiia Ukazatel' 1900–1917*. Saint Petersburg: Biblioteka Akademii Nauk, Institut Istorii Material'noi Kul'tury.
- Zamiatnin S. N. 1937 'Pershschernye navesy Mgvimebi, bliz Chatury (Gruzia). Pervye sledy naskal'noi paleoliticheskoi grafiki v Zakavkazy', *Sovetskaia Arkheologia* 3: 57–76.
- Zeder, M. 2011 'The origins of agriculture in the Near East', *Current Anthropology* 52 (Suppl. 4): S221–S235.
- Zhorzhikashvili, L. G. and Gogadze, E. M. 1974 *Pamiatniki Trialeti epokhi rannei i srednei Bronzy: raskopki 1936–1940, 1947–1948 gg*, Vol. 2. Tbilisi: Metsniereba.
- Zischow, A. 2006 'Die Hochebene von Calka (Trialeti) in der Bronzezeit. Eine Übersicht zum Forschungsstand', *Archäologische Mitteilungen aus Iran und Turan* 38: 49–80.
- Zohary, D., Hopf, M., and Weiss, E. 2012 *Domestication of Plants in the Old World: The Origin and Spread of Domesticated Plants in Southwest Asia, Europe, and the Mediterranean Basin*. 4th ed. Oxford: Oxford University Press.

INDEX

- Aghavnatun 1, 57
- agricultural practices
 - animal husbandry, 274–78
 - crop-raising, 278–79
 - transhumance, 215
- Agubekovo, 138, 141
- Akhantepe
 - metallurgy, 194
- Aknashen-Khatunarkh, 94, 103–04, 108
 - child burial, 108
 - farming, 124
 - pottery, 110
 - stone tools, 117
- Algeti River, 219
- Alikemek Tepesi, 94, 104–105, 196, 203, 209
 - bone and antler tools, 123
 - obsidian, 129–130
 - pottery, 114, 207
 - stone tools, 116
- Amiranis Gora, 220, 238, 246
 - metalwork, 266
 - pottery, 257, 260
- Anaklia, 456, 461
- Ananauri, 313, 329
 - Barrow 3, 314–16
 - gold necklace, 313
 - wagons, 314, 362–63
- Antonovich, Volodimir, 7
- Aragvi River, 219, 329, 417
- Ararat Plain, 103–04
- Aratashen, 94, 99, 103, 196
 - bone and antler tools, 120
 - farming, 124
 - obsidian, 130
 - pottery, 110, 112
 - stone tools, 117
- Araxes River, 3, 93, 215, 221
- Areni-1, 196
- Arich, 361, 367, 370
- Arslantepe, 222, 256
- Artik, 393
 - bird standard, 401
 - mortuary practice, 388–89
- Arukhlo, 94, 96, 99–101, 102, 203
 - farming, 124
 - mortuary practice, 108
 - pottery, 110, 112
- Ashik, Anton, 282
- Atsquri, 340–42
- Azykh, 40, 44
 - ‘bear cult’, 40
- Baba Dervish, 220, 261
 - metalwork, 266
 - tools, 265
- Badaani, 309, 324–25, 329
 - model vehicle, 361–62
- Baiburtian, Evgenii, 10–11
- Bayern, Friedrich, 5
- Bedeni, 332
 - barrows, 316–18
 - playnological research, 316–18
 - wagons, 362
- Belk, Valdomar, 5
- Bell, James Stanislaus, 4, 282
- Berikldeebi, 228–29, 320–23, 401
 - buildings and settlement plan, 228–29
 - hearths, 228–29
 - housing, 193–94
 - Kura-Araxes imposition over Late Chalcolithic, 193, 228
 - pits, 323–24
 - platforms, 323
 - ‘temple’, 194
 - wagon, 364
- Bet Yerah, 223, 242
 - migration, 273
 - walls, 241
- borders and frontiers, 2, 3–4, 216–224, 449
 - in Kura-Araxes culture, 271
 - mountains as, 2, 218

- Böyük Kesik, 196
 infant burials, 199
 pottery, 187
- Buynaksk
 rock art, 78–80
- Caucasus Mountains
 Greater, 1, 2
 Lesser, 220
- Chalcolithic, 132–212
 chronology, 133
 in the northern Caucasus, 137–82
 Maikop culture, 133–36, 143–82
 architecture and settlement
 plans, 149–52
 chronology, 146–49
 radiocarbon dates, 148
 crafts, 172–82
 bone objects, 182
 jewellery, 181
 metalwork, 172–78
 pottery, 179
 stone objects, 181–82
 farming, 151–52
 hearths, 151
 mortuary practice
 barrow burials, 145, 152–69
 chamber types, 159
 pits, 151
 Staromyshastovskii treasure, 169
 pre-Maikop horizon, 137–43
 ditches, 137–38
 houses, 138
 metalworking, 141–42
 in the southern Caucasus, 209
 Chaff-Faced Ware horizon, 136, 184–203
 architecture and settlement plans, 190–96
 hearths, 194
 metallurgy and metalwork, 189–90
 mortuary practice, 196–203
 barrow burials, 199–203
 infant jar burials, 199
 pottery, 184–89
 painted, 187–89
 stone tools, 190
 chronology, 182–83
 Sioni Horizon, 136, 203–09
 farming, 204, 206–07
 pottery, 207–08
 stone tools, 208–09
- sites
 Abanoskhevi, 203, 207
 Agubekovo, 137–38, 141
 Akhantepe, 194
 Alazani, 189, 203, 208
 Alikemek Tepesi, 196, 203, 207, 209
 Aratashen, 196, 203
 Areni-1, 196
 Arukhlo, 203
 Bamut, 142, 155, 178
 Berikldeebi, 193–94
 Bodorna, 203
 Böyük Kesik, 187, 196, 199
 Brut, 154
 Chegem, 173, 176, 181–82
 Chishko, 151
 Chobareti, 199
 Dalma Tepe, 189
 Dantsvari Gora, 203, 209
 Darkveti, 189
 Delisi, 189, 203, 207, 209
 Dolinskoe, 151, 179
 Galiugai, 148, 150–51, 179
 Ginchi, 137, 138, 141
 Godedzor, 187, 196–99
 Goranamosakhlari, 203
 Grmakhevistavi, 207–08
 Iasenova Poliana, 141, 151
 Iastrebov, 154
 Ilanli Tepe, 203
 Javakhi, 203
 Jinvali, 208
 Kamennomostskaia, 137
 Kavtiskhevi, 153, 200–03
 Kishpek, 155, 159
 Klady, 148, 149, 155, 159, 178
 Krasnogvardeiskoe, 147
 Kültepe (Nakhichevan), 196
 Kviriastskali, 189, 203
 Leilatepe, 189–90, 194, 199, 203
 Lugovoe, 145
 Maikop, 159–66, 179
 Mentesh Tepe, 185, 187–89, 190, 191,
 196, 203
 Meshoko, 137, 138–41, 142
 Nachivchavebi, 203, 206–07, 209
 Nal'chik, 137, 142–43, 159, 173, 181
 Novosvobodnaia, 144, 152, 173, 178, 179,
 181, 182
 Orchosani, 176
 Oshad kurgan, 143
 Ovçular Tepe, 185, 187, 190, 191–93,
 199, 203
 Pkhaguape, 152
 Prekupska, 149, 179
 Sadarak, 196
 Sé Girdan, 153, 176
 Sereginskoe, 149, 151, 179
 Serzhen-Yurt, 145
 Seyidli, 153, 199
 Sioni, 204–07, 209
 Sos Höyük, 204
 Soyuq Bulaq, 153, 190–91, 199–200
 Svobodnoe, 137, 138, 141–42, 148
 Tekhut, 196, 207
 Trel, 207
 Tsagan-Nur, 178
 Tsiteli-Gorebi, 189

- Tsiteli Sopeli, 208
 Tsopi, 203, 207, 208
 Urvan, 154
 Ust'-Dzheguta, 147
 Ust'-Dzhugutinskii, 149, 179
 Veselogo, 137, 142
 Vesiolaia Roshcha, 141
 Vorontsov, 137
 Zamankul, 154
 terminology, 132–33
 Chantre, Ernest, 7, 423, 425, 432, 446
 Chernykh, E. N., 13, 141–42, 172, 359, 378
 Chobareti, 199, 238–40
 burials, 243, 246
 Chalcolithic infant burial, 199
 grave goods, 246
 pits, 240
 pottery, 238–39, 260
 radiocarbon dating, 239
 stamp seal, 239
 stone tools, 266
 Chovle Gora
 pottery workshop, 409
 Cmi, 125–26
 Colchian culture, 449–74
 and the Ancient Greeks, 449–50
 copper-to-iron hypothesis, 471–73
 drinking, 474
 hoards and the destruction of wealth, 459–61
 Colchian axe, 459–60
 iron, 468–71
 associated ritual, 469
 pottery, 461–63
 Proto- and Ancient Colchian, 450
 relationship to Koban, 465–67
 settlements, ditches and canals, 451–56
 canal system, 451–52
 ditches, 452, 453
 dune settlements, 453–54
 mound sites, 453
 Pichori, 454–56
 sites
 Anaklia, 456, 461
 Anaklia dikha-gudzuba, 452
 Brili, 458
 Chorokhi, 471
 Dablagomis Nazichvara, 461
 Ergeta, 459, 471
 Eshera, 458
 Gagra, 458, 466
 Goradziri, 458
 Guadikhu, 458, 466
 Khutsubani, 458, 466
 Korochi, 460
 Lekhaindrao dikha-gudzuba, 453
 Namamu, 452
 Namcheduri, 452, 453
 Naokhvamu, 452
 Natsiskvilari, 456
 Nigvzianij, 471
 Nosiri, 452, 461
 Ochkhomuri, 454, 456
 Patriketi, 453
 Pichori, 452, 454–56, 461–63
 Pilenkovo, 460
 Primorskoe, 458
 Shukura, 458
 Tsiteli, 458
 Ureki, 446, 466, 471
 Vereshaginskaya Gora, 458
 Zhivali, 459
 Zvandripsh, 458
 tin, 467–68
 tomb types, 456–58

 de Marigny, Taitbout, 282
 de Monpierre, Dubois, 282
 de Morgan, Jacques, 6, 41, 419
 Delisi, 203
 metalwork, 189
 pottery, 207
 stone tools, 209
 Didi Gora, 344, 409
 pottery, 352–54
 ditches
 in the Chalcolithic, 137–38
 in Colchian culture, 452, 453
 in the Neolithic, 106–08
 Djrchula Klde, 50, 55–56, 57
 tools, 55
 Dmanisi, 35–39
 fossil hominin remains, 35–38
 in the pre-Pottery Neolithic, 90
 stone tools, 41–43
 Dolbezhev, V. I., 7
 Dolinskoe, 151, 179
 pits, 151
 dolmens, 281–97
 associated settlements, 295
 decoration, 291
 features, 284–91
 funerary customs, 291–93
 deposition through portals, 291–93
 multiple burials, 291
 grave goods, 293–95
 Novosvobodnaia type, 282
 distinguishing traits, 295
 sites
 Aderbievka, 290
 Adignalovo, 290
 Bagovskoi, 293
 Deguaksko, 295
 Dzhubga, 286–87
 Gelendzhik, 282, 290, 295
 Guzeriplski, 290
 Krasnaia Palyana, 293
 Novosvobodnaia, 289

- dolmens (*cont.*)
 Pshada, 282
 Psynako, 293
 Shepsi, 291
 Starchik, 295
 Vepkhniaia Eshera, 293
 Zhane, 284–85
 in the Talish region, 420
 Soviet classificatory systems, 287–91
 Markovin, Vladimir Ivanovich, 287–91
 types
 composite, 290
 monolithic, 291
 plinth, 289–90
 trough-shaped, 290–91
- Dvoinaya, 67
 ornamented bone, 72
 shells, 72
- Dzudzuana Klde, 63–66, 93
 Sakajia points, 65
 textiles, 63
- Elar, 236, 246
 metalwork, 267
- Elburz Mountains, 223
- ethnogenesis, 11, 13, 29, 382
- field survey, 15, 216, 222
- figurines
 animal, 182
 human, 108–10
- Filimonoff, Giorgi, 7
- Friche, V. M., 8
- Gagida River, 454
- Galiugai, 150–51
 pottery, 179
 radiocarbon dates, 148
- Gamdlistskaro
 sacred space, 414–16
- Gantiadi
 metalworker's grave, 393
- Gegharot, 220, 383, 385
 sacred space, 410–13
- Georgian National Museum, 14
- Ginchi, 137, 138, 141, 376
 pottery, 138
- Gobustan, 72, 74–78
 associated ritual, 77–78
 dating, 75–77
 imagery, 75
- Godedzor
 burial, 196–99
 pottery, 187, 189
- Godin Tepe, 223, 276–77
 evidence of ritual, 249
- Göytepe, 95, 96, 99, 105
 bone and antler tools, 120, 123
 grain, 101
- Great Liachvi River, 435
- Grmakhevistavi, 207–08, 229, 254
 pits, 229
- Gubs rockshelter, 50
- Gudabertka, 219, 231, 233, 243
- Gumbashi, 427–29
- Güzelova, 222, 260
 pottery, 261
- Hacı Elamxamlı, 94, 102
 pottery, 110, 114
- hearths, 224, 321
 in the Chalcolithic, 194
 hobs (or portable andirons)
 at Chobareti, 238
 in Kura-Araxes culture, 228, 250–53
 at Berikldeebi IV, 229
 at Kültepe (Nakhichevan), 237
 at Norabats, 237
 at Ozni, 236
 at Sos Höyük, 242
 at Yanik Tepe, 236
 in the Late Bronze Age–Iron Age I, 385
 in Maikop culture, 150–51
 in the Neolithic, 101
- history of archaeological research, 4–15
 Koban region, 7
 Post Perestroika (1991–present), 14–15
 field survey, 15
 radiocarbon analysis, 15
 Post World War II, 11–14
 ethnogenesis, 11
 new approaches, 13–14
 traditional methods, 13
 Russian imperial period, 4–7
 Soviet archaeology, 7–11
 Marxist-Leninist ideology, 7–10
 Stalinist period, 10–11
- hoards and caching, 459–61
- Hovk 1, 50, 54
 Middle–Upper Palaeolithic
 ‘transition’, 57
 tools, 56
- Iasenova Poliana, 141, 151
- Ilanlı Tepe, 94, 104–05, 203
- Imiris Gora, 94, 99, 102
 bone and antler tools, 120
 pottery, 112, 114
 stone tools, 117
- Irganchai, 335, 338
 wagons, 363
- Jinisi, 342–44
- Kabardinka, 429
- Kalakent
 belts, 401
- Kalantar, Ashkharbek, 10
- Kalavan 1, 66
 burials, 244

- Kalavan 2, 50
 Middle–Upper Palaeolithic ‘transition’, 57
 Kamennomostskaia, 137
 Kamiltepe, 94, 105, 117
 beads, 123
 farming, 124
 pottery, 112, 114
 Karashamb, 318, 333, 351
 silver goblet, 345–47
 Kavtiskhevi, 153
 barrow burials, 200–03
 Khizanaant Gora, 219, 235, 237, 254
 metalwork, 266
 pottery, 257
 stone tools, 266
 Khrami River, 128, 219, 333
 Khramis Didi Gora, 94–6, 99, 123
 beads, 123
 bone and antler tools, 120
 figurines, 108–10
 stone tools, 117
 viticulture, 125
 Kiketi, 219, 260
 burials, 246–47
 Kizinka River, 282
 Klady, 149, 155, 178
 barrows
 ornamentation, 159
 child burial in a jar, 159
 radiocarbon dates, 148
 Klejn, Leo, 7, 10, 14
 Kmlo-2, 90–91
 ‘Kmlo tool’, 90
 Koban, 434, 445, 446
 burial types, 430, 431, 432
 Koban culture, 423–48
 architecture and settlement plans, 426–29
 costumes and rank, 434
 geographical extent, 424
 Koban burial ground, 432
 metals and metalwork, 438–46
 exchange networks, 438–39
 importance of bronze, 439
 jewellery and costume accessories, 442–46
 bangles, bracelets and arm-rings, 445
 belts and buckles, 445–46
 fibulae, 444–45
 pendants, 446
 rings and spirals, 442–44
 vessels, 446
 weapons, tools and horse trappings, 440–42
 bronze axes, 441
 daggers, 440–41
 horse harness, 442
 spearheads, 441–42
 mortuary practice, 429–31
 periodisation, 425–26
 radiocarbon dates, 426
 pottery, 446–47
 relationship to Colchis, 424–25
 Scythian influence, 434, 435
 sites
 Belorechenski, 431
 Chmi, 431
 Dvani, 438
 Ergeta, 446
 Galiat-Faskau, 431
 Gumbashi, 427–29
 Kabardinka, 429
 Kamenomost, 431
 Karabashevo, 431
 Kislovodsk, 431, 434, 442
 Koban, 430, 431, 432, 434, 445, 446
 Komarovo, 430
 Kumush, 430
 Kvasatali, 431, 438
 Lisa Zemo-Ojola, 438
 Lugovoe, 434
 Mairtup 2, 434
 Mineral Baths area, 430
 Muzhichi, 430, 431
 Nesterovskaia, 430
 Nuli, 431, 438
 Perkal’sko, 429
 Pokunsyrt, 429
 Serzhen-Yurt, 426–27, 429, 434, 435, 441, 444
 Styrfaz, 429, 430, 438, 442
 Tli, 429, 430, 434, 435–36, 441, 442, 445, 446
 Uchkulanskoe, 426
 Ullubaganaly, 429, 430
 Ureki, 446
 Verkhnaia Rutkha, 431
 Zaiukovo, 431
 Zol’skoe, 426
 Tli and the central region, 435–36
 warrior symbols, 435
 Kodori River, 282
 Köhne Shahar
 walls, 241–42
 Komarovo
 burial types, 430
 Konstantinovka, 376–77
 Kotias Klde, 67–71, 93
 brown bears, 70
 diet, 70
 Neolithic burial, 93
 Krupnov, Evgenii Ignatevich, 12, 143, 425
 Kuban River, 144, 282
 Kudaro, 39–40, 45, 67
 Kuftin, Boris Alekseyevich, 11, 215, 220, 236, 306,
 333, 336, 344–45, 348–49, 385, 425
 Kültepe (Nakhichevan), 94, 96, 104, 196, 230, 236,
 237, 371
 bone and antler tools, 123
 metals, 123
 mortuary practice, 108
 pottery, 114
 Kura-Araxes culture
 in the Amuq Plain and the Levantine Coastal
 Region, 223

- Kura-Araxes culture (*cont.*)
- in Armenia, 220–21
 - in Azerbaijan, 221
 - choice of land, 218
 - in Cyprus, 224
 - developmental stages, 224–61
 - expansion and diversification, 227–61
 - architecture and settlement plans, 230–53
 - burials, 243–48
 - barrow burials, 247–48
 - grave goods, 243
 - horseshoe-shaped tombs, 246–47
 - pit graves, 243–44
 - small cairns, 247
 - stone-lined tombs, 244–46
 - fortifications and protective walls, 241–42
 - freestanding wattle-and-daub structures, 231–35
 - similarities with tent communities, 235
 - rectangular houses, 237–38
 - round houses, 235–37
 - floors, 236
 - sacred spaces, 248–53
 - hearths, 250–53
 - semi-subterranean structures, 240–41
 - terraced settlements, 240
 - pottery, 253–61
 - Late Ceramics, 256–61
 - central, 257–60
 - northern, 257
 - southern, 260–61
 - formative period, 227–56
 - Early Ceramics 253–56
 - Burnished Wares, 256
 - Enduring Chaff-Face Wares, 254
 - Monochrome Ware, 253–54
 - problems in identifying, 226
 - in Eastern Anatolia, 221–22
 - in Georgia, 218–20
 - in western Georgia, 219
 - in Iran, 223
 - Khirbet Kerak culture, 223
 - longevity, 214
 - metalworking, 225
 - migration, 216, 270–73
 - explanations for, 272–73
 - role in economy, 273–79
 - animal husbandry, 274–78
 - crop-raising, 278–79
 - mining, 261–65
 - Gosha, 261
 - Kedabeg, 261
 - Sakdrisi, 261–65
 - ritual behaviour, 265
 - Sotk, 261
 - regionalism, 215
 - salt and salt mining, 269–70
 - Duzdaği, 269–70
- sites
- Ada Blur, 237, 241
 - Agarak, 237
 - Ajgevan, 267
 - Alaverdi, 267
 - Altuntepe, 222
 - Amiranis Gora, 220, 238, 246, 257, 260, 266
 - Aparan III, 220
 - Aradeti Orgora, 243
 - Arslantepe, 222, 223, 256, 272, 277–78
 - Astkhadzor, 221
 - Baba Dervish, 220, 261, 265, 266
 - Barmaksizi, 220
 - Berikldeebi IV, 228–29
 - Beshtasheni, 220, 257
 - Bet Shean, 223
 - Bet Yerah, 223, 241, 242, 273
 - Bulanik, 221
 - Chirkeisk, 238
 - Chobareti, 220, 238–40, 243, 246, 260, 266
 - Dangreuli Gora, 219
 - Diarjan, 223
 - Didube, 219, 257
 - Doğubayazit, 221
 - Dusheti, 219
 - Dvin, 243
 - Dzaghina, 243
 - Dzyanberd, 237
 - Elar, 236, 246, 267
 - Ernis, 221
 - Galgatli, 236
 - Garakepektepe, 237
 - Garni, 237
 - Gegharot, 220
 - Gemitulitshch I and II, 241
 - Geoy Tepe, 223, 260
 - Ghaimazi, 219
 - Gijlar Tepe, 218, 231
 - Godin Tepe, 223, 249
 - Grmakhevistavi, 229
 - Gudabertka, 219, 231, 233, 243
 - Güzelova, 222, 260, 261
 - Harich, 238, 257
 - Iğdır, 221
 - Ilto, 243
 - Kalavan-I, 244
 - Kamo, 221
 - Karaz, 222, 260
 - Karnut I, 220
 - Khinisli, 246
 - Khizanaant Gora, 219, 231, 235, 237, 243, 254, 257, 266
 - Kiketi, 219, 246–47, 260
 - Koda, 219
 - Köhne Shahr, 241–42
 - Koreti, 247, 268
 - Kosi Choter, 220
 - Kul Tepe (Hadishahr), 223
 - Kültepe (Nakhichevan), 230, 236, 237

- Kvatskhelebi, 219, 231, 243–44, 246, 249, 257, 268
 Mayisyan, 248
 Mchadjivari Gora, 236
 Mentesh Tepe, 220, 221, 247
 Mets Sepasar, 220
 Mingechaur, 241
 Mokhra Blur, 221, 230, 236–37, 241, 260
 Nachivchavebi, 243, 246
 Natsargora, 219, 257
 Norabats, 237
 Norşuntepe, 222
 Osman Bozu, 247
 Ovcular Tepe, 221, 225
 Ozni, 220, 236, 257
 Pulur, 222, 237–38, 250, 261
 Sachkhere, 219, 268
 Samshilde, 220, 237, 243, 244, 246
 Sapar-Kharaba, 247
 Shengavit, 218, 221, 236, 241, 242, 250, 266, 268
 Sos Höyük, 222, 230, 242, 252, 256, 260, 261, 266
 Tagavarnist, 220
 Takhtidziri, 246
 Talin, 243, 248, 254, 269
 Tash Bashi, 220
 Taşkun Mevkii, 222, 251
 Tepecik, 222
 Tetri Tskaro, 220, 237
 Tiseli Seri, 243, 244, 266, 267
 Treligorebi, 219
 Tsartsisgora, 268
 Tsikhiagora, 231, 233–35, 250, 257
 Urbnisi, 243
 Velikent, 219, 240–41
 Yanik Tepe, 218, 223, 235, 236
 Zveli, 220
 social organisation, 231
 terminology, 215–16
 tools and artefacts, 265–69
 metal, 266–69
 trace analysis, 268–69
 stone and bone, 265–66
 Kura-Araxes interfluvium, 86, 93, 130, 183, 214, 272
 Kura River, 93, 215, 219, 417, 418
 Kvatskhelebi, 219, 231–33, 243, 244, 246, 268
 burials, 243–44
 evidence of ritual, 249
 pottery, 257
 Lake Sevan, 221, 416
 Lake Urmia, 223
 Late Bronze Age–Iron Age I, 378–422
 Lchashen-Tsitelgori horizon, 382–416
 archaeological investigations
 University of Tübingen, 409
 fortresses, 382–86
 archaeological investigations
 Project ArAGATS, 383
 Tsalka expedition, 385
 Beshtasheni, 385
 Gegharot, 383, 385, 409, 410–13
 Knole, 386
 Mekhchri, 393
 Sabechdavi, 385–86
 menhirs, 386
 Shaori, 386
 Tsaghkahovit, 383–85, 409
 menhirs, 416
 metals and metalworking, 391–403
 figurines, 401
 horse harnesses, 403
 iron artefacts
 Sevan daggers, 393
 jewellery, 398–401
 belts, 398–401
 tin bronze, 391
 weapons
 battle-axe, 393
 daggers, 395
 swords, 393–95
 other weapons, 395
 mortuary practice, 383, 385, 388–91
 pottery, 403–10
 sacred spaces, 410–16
 settlements, 386–88
 Samtavro and Shida Kartli, 417–19
 mortuary practice, 418
 settlements, 419
 sites
 Amarat, 419
 Aparan II, 389
 Armaziskhevi, 417
 Artik, 388–89, 393, 401
 Berikldeebi, 401
 Chovle Gora, 409
 Cönü, 419, 420
 Cucu Tuk, 419
 Didi Gora, 409
 Gamdlistskaro, 414–16
 Gantiadi, 393
 Hnaberd, 389
 Hovil, 419, 420
 Kalakent, 401
 Khjabagher, 389
 Kraveladi, 419, 420
 Kvemo Sasireti, 393, 401
 Lchashen, 401
 Marlik, 420
 Melaani, 398, 414
 Meligele, 414
 Mistail, 419
 Monidigah, 419
 Mouci Yeri, 398
 Sajoge, 386–88
 Samtavro, 401, 417–18, 419
 Shilda, 413
 Tli, 398
 Tqisbolo Gora, 409, 410
 Treligorebi, 418, 419

- Late Bronze Age–Iron Age I (*cont.*)
- Tsitelgori, 391, 401
 - Udabno, 409–10
 - Vanu Barra, 420
 - Veri, 420
 - Talish Tradition, 419–21
 - cultural connections, 420–21
 - dolmens, 420
 - in western Georgia, 379
 - Lchashen
 - wagons, 363–64
 - learned societies
 - Caucasus Archaeological Committee, 5
 - Imperial Archaeological Commission, 5
 - Archaeological Commission Reports*, 5
 - Society of Amateurs of Caucasian Archaeology, 5
 - ‘Fifth Archaeological Congress (the Caucasus)’, 5
 - Leilatepe, 189, 194, 203
 - grain storage, 194
 - infant burials, 199
 - metalworking, 194
 - Lenkoran region, 419, 420
 - Liakhvi River, 219
 - Liubin, Valerii Petrovich, 39, 49, 88
 - Lori Berd, 333, 349, 351, 352, 369
 - Lugovoe, 145
 - Lusakert I, 50, 57
 - Magharo, 309, 311
 - Maikop
 - pottery, 179
 - princely burials, 159–66
 - silver goblets, 166
 - Marr, Nikolai, 8–9, 11
 - Martkopi, 309–13
 - Masson, V. M., 13
 - Matuzka Cave, 47, 50, 51, 52
 - bears, 51
 - Melaani
 - jewellery, 398
 - sacred space, 414
 - Meligele
 - sacred space, 414
 - Melisets-Bek, L., 385
 - menhirs, 385–86
 - at Koban culture sites, 427
 - Mentesh Tepe, 94, 96, 196, 203, 220, 221
 - burials, 247
 - chronology, 303
 - farming, 124
 - housing, 191
 - metalwork, 190
 - pottery, 185, 187
 - Meshoko, 137, 138–41
 - diet, 142
 - Meskheta, 339–40
 - Mesolithic, 66–72
 - climate variability, 66–67
 - sites
 - Apianchi, 67, 72
 - Atsinskaia Peshchera, 67
 - Badynoko, 71, 72
 - Chakhati, 67
 - Chokh, 67
 - Chygai, 67–68, 71
 - Darkveti, 67, 71
 - Dvoinaya, 67–68, 71–72
 - Dzhampala, 67
 - Edzani, 67
 - Entseri, 67
 - Gudaleti, 67
 - Iashtkhva, 67
 - Kholodnyi, 67, 72
 - Kotias Klde, 67–71
 - Koz’ma-Nokho, 67
 - Kudaro, 67
 - Kvachara, 67
 - Kvedi, 67
 - Mekegi, 67
 - Sagvardjile, 66, 67
 - Sosruko, 71, 72
 - Tsona, 67
 - Zaikovo, 71
 - Zurtaketi, 67
 - Mezmaiskaya Cave, 50, 51–52, 61
 - evidence for the Upper Palaeolithic, 62
 - genome research, 59
 - infant burial, 51
 - Middle Bronze Age, 298–377
 - chronology, 299–304
 - radiocarbon dates, 301
 - Early Bronze Age IV/Middle Bronze Age I, 305–32
 - Bedeni barrows, 313–20
 - Bedeni crafts and technology
 - pottery, 325–26
 - stone items, 326
 - woodworking, 326
 - Bedeni sacred spaces, 329
 - Bedeni settlements, 320–25
 - economic subsistence, 329–32
 - Martkopi and Early Trialeti barrows, 309–13
 - pottery, 311
 - Middle Bronze Age II, 332–65
 - Brili cemetery, 354–57
 - axes, 355
 - gold work, 349–51
 - metal containers, 348–49
 - pottery, 354
 - burial, 352
 - settlement, 352–54
 - settlements, 342–44
 - silver goblets, 344–48
 - interpretation, 348
 - tools and weapons, 351–52
 - Trialeti complex, 332–38

- burial customs and tomb
 - architecture, 334–36
 - stone-built chambers, 336
 - human remains, 338
 - mound types, 334
 - ritual roads, 336–38
- Middle Bronze Age III, 365–72
 - Apsheon Peninsula, 371–72
 - Karmirberd (Tazakend) horizon, 367–69
 - Kizyl Vank horizon, 370–71
 - Sevan–Uzerlik horizon, 369–70
- sites
 - Abanoskhevi, 320
 - Akhcha, 340
 - Ananauri, 313, 314–16, 329, 362–63
 - Aparan-III, 331
 - Arich, 361, 367, 370
 - Artashavan, 332
 - Atsquri, 340–42
 - Badaani, 309, 324–25, 329, 361–62
 - Bedeni, 316–18, 332, 362
 - Bel'ty, 375
 - Berikldeebi III, 320–23
 - Beshdasheni, 325
 - Chachkari, 340
 - Chikhistskali, 362
 - Chirkei, 372
 - Choch, 376
 - Cholodnorodnikovsk, 372, 375
 - Chorocholi, 377
 - Didi Gora, 344, 352
 - Dumeila, 340
 - Elar, 367
 - Gadachrili–Gora, 320
 - Galgatli, 376
 - Gatyn Kale, 372, 376
 - Gegharot, 331
 - Gental, 376
 - Ginchi, 376
 - Ilto, 320, 325
 - Irganchai, 335, 338, 362–63
 - Jinisi, 342–44
 - Kamo (Nor-Bayazet), 367
 - Karashamb, 318, 333, 344–47, 351
 - Keti, 335
 - Ketileti, 340
 - Kishpek, 372, 375
 - Kobala, 376
 - Konstantinovka, 376–77
 - Koreti, 306
 - Kramebi, 320
 - Kültepe (Nakhichevan), 371
 - Kyzburun, 372, 377
 - Lchashen, 367
 - Lechinkai, 372
 - Lori Berd, 333, 349, 351, 352, 369
 - Magharo, 309–11
 - Manas, 375
 - Martkopi, 309–13
 - Masuk, 373
 - Mentesh Tepe, 303
 - Meskheta, 339–40
 - Metsamor, 376
 - Miatli, 372, 376
 - Namgalamitsa, 338
 - Natsargora, 325
 - Nerkin Naver, 333, 351
 - Sabit Akhcha, 334, 335, 339, 362
 - Sabit Tqemlara, 362
 - Sachkhere, 306–09
 - Sadachlo, 362
 - Saduga, 351
 - Samgori, 305, 313
 - Sarachlo, 364
 - Shor Tepe, 371
 - Shulaveri, 320, 325
 - Siltrak, 375
 - Stanica Suvorovskaia, 372–73, 375
 - Stepanakert, 309
 - Tetri Kvebi, 336, 363
 - Tli, 377
 - Tqemlara, 332, 357, 362
 - Tqisbolo Gora, 335–36, 342–44, 352, 363
 - Trialeti, 311, 325
 - Tsaghkasar-I, 331
 - Tsaghvli, 331
 - Tsartsisgora, 306
 - Tsikhiagora, 309, 324
 - Tsnori, 313, 318–20, 362
 - Ust' Dzhugutinskii, 372, 375
 - Utamish, 362, 363, 376
 - Uzerlik Tepe, 333, 369
 - Vanadzor, 333
 - Velikent, 375
 - Verin-Naver, 367
 - Zeiani, 311, 362
 - Zhinvali, 329
 - Zurtaketi, 338–39
- the North Caucasian culture, 372–77
 - catacomb tombs, 373–75
 - stone cist tombs, 375–76
 - wooden tombs, 376–77
- wagons and carts, 357–65
 - animal remains, 364–65
 - in the Caucasian Bronze Age, 359–64
 - origins and distribution, 357–59
- Mil Steppe, 96, 247
- Mingechaur, 240–41
- Mokhra Blur, 221, 230, 236–37
 - pottery, 260, 261
 - tower, 236
 - walls, 241
- mortuary practice
 - barrow burials, 152–69, 199–203, 391, 431, 458
 - cairns, 243
 - catacombs, 373–75
 - cremation, 334
 - cromlechs, 388, 389, 431

- mortuary practice (*cont.*)
- dolmens, 281–97
 - horseshoe-shaped tombs, 243, 246–47
 - infant burials, 199
 - ossuaries, 458
 - pit graves, 196, 243, 244, 418, 430, 458
 - small cairns, 247
 - stone-built vaults, 430–31
 - stone cist graves, 243, 244, 375–76, 431, 458
 - stone-lined tombs, 243, 244–46
 - use of cinnabar, 164
 - use of red ochre, 142–43, 166, 314, 373
 - wooden tombs, 376–77
- Mount Aragats, 220, 221, 383, 416
- Mount Gegham, 416
- Mugan steppes, 94, 104–05, 123, 221
- museums and collections, 6
- Georgian National Museum, 6, 14
- Mushakan-1, 41
- Nachivchavebi, 206–07, 209, 243, 246
- burials, 246
- Nagutni sites
- in the Pre-Pottery Neolithic, 88
- Nal'chik, 137, 159, 173
- grave goods, 143
 - jewellery, 181
 - mortuary practice, 142–43
- Namamu, 452
- Natsargora, 325
- Neolithic, 84–131
- dating, 84–85
 - obsidian, 126–29
 - patterns of procurement, 129–30
 - Pottery Neolithic, 93–130
 - in the central and northern Caucasus, 125–26
 - in the central and southern Caucasus, 93–125
 - 'Shulaveri-Shomutepe' culture, 93–94
 - architecture and settlement plans, 95–108
 - courtyards, 102–03
 - ditches, 106–08
 - beads, 123
 - bone and antler tools, 120–23
 - depictions of people, 108–10
 - farming, 123–25
 - animal husbandry, 124
 - crop-raising, 124
 - viticulture, 124–25
 - metals and metallurgy, 123
 - mortuary practice, 108–10
 - pottery, 110–16
 - coarse plain wares, 110–14
 - painted wares, 114–16
 - stone tools, 116–20
 - Pre-Pottery Neolithic, 88–93
 - in the central and southern Caucasus, 88–91
 - in western Georgia and the Black Sea region, 91–93
- sites
- Ada Blur, 130
 - Aknashen-Khatunarkh, 94, 103–04, 108, 110, 116–17, 124
 - Alikemek Tepesi, 94, 104–05, 114, 116, 123
 - Anaseuli, 91, 92
 - Aratashen, 94, 99, 103, 110, 112, 117, 120, 123–24, 125, 130
 - Arukhló, 94, 96, 99–101, 102, 108, 110, 112, 123, 124
 - Baba Dervish, 116
 - Berdshen, 130
 - Cmi, 125–26
 - Dangreulis Gora, 94
 - Darkveti, 91
 - Dmanisi, 90
 - Dzudzuna Klde, 93
 - Gadachrili Gora, 94, 96, 112
 - Gargalar Tepe, 110, 116, 123
 - Göytepe, 94, 95, 96, 99, 101, 105, 110, 120, 123
 - Gurianta, 92
 - Hacı Elamxanlı, 94, 102, 110, 114
 - Ilanly Tepe, 94, 104–05
 - Imiris Gora, 94, 99, 102, 104, 106, 110, 112, 114, 117, 120
 - Kamiltepe, 94, 105, 106, 112, 114, 117, 123, 124
 - Keti, 130
 - Khramis Didi Gora, 94, 95, 96, 99, 101, 108–10, 117, 120, 123, 125
 - Khutsubani, 92
 - Kistriki, 91, 92
 - Kmlo-2, 90–91
 - Kobuleti, 92
 - Kotias Klde, 93
 - Kültepe (Nakhichevan), 94, 96, 104–05, 108, 114, 123
 - Mamati, 91
 - Mashtots Blur, 130
 - Masis Blur, 94, 130
 - Menteshtepé, 94, 96, 124
 - Nagutni, 88
 - Nizhnyaya Shilovka, 91, 92
 - Odishi, 91, 92
 - Paluri, 91, 92
 - Paravani 1, 90
 - Sagvardzhile, 91, 93
 - Samele Klde, 93
 - Samertskhle Klde, 93
 - Shaori, 90
 - Shomutepe, 94, 96, 101, 110, 116, 120
 - Shorsu, 104
 - Shulaveri, 94, 95, 96, 99, 101, 102, 110, 112, 116, 120, 124
 - Tekhut, 94, 103, 114–16, 123
 - Tkaia-Lebiqvi, 91
 - Töyre Tepe, 116
 - Tsopi, 94

- Urta, 91, 92
- Verin Naver, 130
- Nor Geghi
 - Lower–Middle Palaeolithic transition, 47–49
- Norabats, 237
- Novosvobodnaia, 144, 152, 173–76, 178, 179
 - burials, 166–69
 - jewellery, 179
 - stone objects, 181, 182
- obsidian, 126–30
 - sources and procurement, 90
 - Aikasar, 128
 - Aragats, 128
 - Arkayasar, 128
 - Arteni, 116, 128, 129–30
 - Atis, 116
 - Chikiani, 54, 68, 92, 127, 128, 130
 - Dalar, 128
 - Damlik, 128, 130
 - Eni-Ėl, 40, 128
 - Gegham, 130
 - Geghasar, 116, 130
 - Gutansar, 116, 128, 130
 - Hatis, 116, 128–29, 130
 - Kamakar, 128
 - Kars, 116
 - Kelbadzhar, 127, 129, 130
 - Khorapor, 129
 - Mets Arteni, 128
 - Paravani outcrop, 116
 - Pokr Arteni, 128
 - Satani Dar, 40, 128
 - Syunik, 129
 - TCUNK 1, 130
 - Ttvakar, 128, 130
 - Van, 116
- Odishi, 91, 92
- Ortvale Klde, 47, 50, 52, 54–55, 57
 - diet, 54
 - reassessment of Neanderthal behaviour, 60–61
 - stone tools, 54–55
- Oshad kurgan, 143–44
- Osman Bozu
 - burials, 247
- Ovçular Tepe, 199, 203, 221, 225
 - housing, 191–93
 - pottery, 185, 187
 - stone tools, 190
- Palaeolithic
 - caves, 39–40
 - limitations on study, 34–35
 - Lower Palaeolithic, 35–43
 - diet, 45–46
 - stone tools, 41–43
 - Acheulian hand axe, 44–45
 - Middle Palaeolithic, 46–61
 - Neanderthals, 46–47
 - genome research, 59–60
 - in the Middle–Upper Palaeolithic ‘transition’, 57–61
 - reassessment of behaviour, 60–61
 - site preference, 49
 - in the southern Caucasus, 52–54
 - stone tools, 49–50, 52
 - Middle–Upper Palaeolithic ‘transition’, 57–61
 - stone tools, 61
 - sites
 - Aghavnatun 1, 57
 - Akhshtyrskaya Caves, 44
 - Azykh, 40, 44
 - Barakaevskaya Cave, 50
 - Baranakha, 50
 - Djruchula Klde, 50, 54, 55–56, 57
 - Dmanisi, 35–39
 - Dzudzuana Klde, 63–66
 - Gubs rockshelter, 50
 - Gvardjilas Klde, 66
 - Hovk 1, 50, 54, 56, 57
 - Il’skaya, 50
 - Kalavan 1, 66
 - Kalavan 2, 50, 57
 - Kamennomostskaya Cave, 62
 - Kudaro, 39–40, 45
 - Lusakert 1, 50, 57
 - Matuzka Cave, 47, 50, 51
 - Megvimevi Rockshelter, 66
 - Mezmaiskaya Cave, 50, 51–52, 60, 61, 62
 - Monasheskaya Cave, 50
 - Mushakan-1, 41
 - Nor Geghi 1, 47–49
 - Ortvale Klde, 47, 50, 54–55, 57, 60–61
 - Sagvardjile, 66
 - Sakajia Cave, 60, 66
 - Samerzkhle Klde, 66
 - Satsurbliia Cave, 66
 - Savante Savan, 66
 - Tsona Klde, 45, 50, 56–7, 60
 - Tsutskhvati, 54, 56
 - Yerevan 1, 50, 57
 - stone tools, 43–44
 - Upper Palaeolithic, 61–66
- Pallas, Peter Simon, 282
- Paravani
 - in the Pre-Pottery Neolithic, 90
- Pasinler Plain, 222
- Peter the Great (Tsar Peter I), 5
- Pichori, 452, 454–56
- Piotrovskii, Boris, 11
- pits
 - at Berikldeebi, 323–24
 - in Kura-Araxes culture
 - at Chobareti, 240
 - at Grmakhevistavi, 229
 - at Velikent, 241
 - at Late Bronze Age–Iron Age I sacred sites, 413, 414

- pits (*cont.*)
 in Maikop culture, 150, 151
 in the Sioni horizon, 204
 Podkumok River valley, 427
 Pokrovsky, Mikhail Nikolayevich, 8
 problems in the study of Caucasian archaeology, 16–18
 analysis and interpretation of depositional layers, 16
 cultural materialism, 16
 dissemination of results, 18
 loose methodological foundations, 17
 radiocarbon readings, 17–18
 work of Giorgi Kavtaradze, 17
 Pulur, 222, 237–38
 evidence of ritual, 250
 pottery, 261
 rescue archaeology, 12, 15
 ritual
 ‘bear cult’, 40, 70
 at Berikldeebi, 321, 323–24
 in Colchian culture
 drinking, 474
 hoards and destruction of wealth, 459–61
 iron, 469
 conspicuous breakage, 239
 at Gamdlistskaro, 414–16
 at Gegharot, 410–13
 at Godin Tepe IV, 249
 hoards and caching, 101
 at Kvatskhelebi, 249
 at Melaani, 414
 at Meligele, 414
 menhirs, 416
 at Pulur, 250
 rock art, 77–78
 shamanism, 76, 78, 365
 at Shengavit, 250
 at Shilda, 413
 at Tsikhiagora, 250
 rock art, 72–81
 associated ritual, 77–78
 dating, 74, 75–77
 imagery, 75
 ritual
 animism, 78
 shamanism, 76, 78
 sites
 Agtsa, 72, 80
 Buynaksk, 78–80
 Chinna-Hita, 74
 Chuval-Khvarab-Noho, 74
 Gemigaya, 74
 Gobustan, 72, 74–78
 Haritan, 74
 Kelbajar, 74
 Mgvimevi, 72, 80
 Trialeti Petroglyphs, 80
 Ukhtasar, 80–81
 routes and roads, 3, 220, 222
 corridors of communication, 220
 Sabit Akhcha, 334, 335
 wagon, 362
 Sachkhere
 as transitional site, 306–09
 Sajoge, 386–88
 Samshvilde, 220, 237, 243
 burials, 244, 246
 Samtavro, 417
 burials, 417–18
 grave goods, 418
 engraved bronze belt, 401
 Sapar Kharaba
 wagon, 364
 seals, cylinder and stamp, 239
 Semenov, Sergei, 10, 13
 Sereginskoe, 149, 151
 Serzhen-Yurt, 145, 426–27, 429, 444
 burial costumes and rank, 434
 daggers, 441
 warrior symbols, 435
 Shaori, 90
 Shengavit, 218, 221, 236, 241, 242, 268
 evidence of ritual, 250
 stone tools, 266
 walls, 241
 Shilda
 sacred space, 413
 Shomutepe, 94, 96, 101
 bone and antler tools, 120
 stone tools, 116
 sling-shots, 117
 Shorsu, 104
 Shulaveri, 94, 96, 101, 110, 325
 farming, 124
 pottery, 110, 112
 stone tools, 116
 viticulture, 124
 Sioni, 204–07, 209, 335
 pits, 204
 pottery, 207
 Sos Höyük, 204, 222, 230, 242
 pottery, 260, 261
 stone tools, 266
 walls, 242
 Soyug Bulaq, 153
 barrow burials, 199–200
 Stanica Suvorovskaia, 372–73, 375
 Stepanakert, 309
 stone tools, 41–43
 evolution of, 43–44
 industries
 Acheulean, 43
 Aurignacian, 44
 Microlithic, 44
 Mousterian, 43
 East Micoquian, 50, 52
 Levallois, 46, 49
 Oldowan, 35, 41–43
 Styrfaz, 429, 438, 442
 burial types, 430

- Svobodnoe, 137, 138, 141
 radiocarbon dates, 148
- Talin, 243, 269
 burials, 248
- Tas-Silġ, Malta, 351
- Taurus Mountains, 221
- Tekhut, 94, 103, 196
 bone and antler tools, 123
 metals, 123
 pottery, 114–16, 207
- terracing, 238–40
 in Kura-Araxes culture, 230
- Tetri Kvebi, 336, 363
- Tiselis Seri, 243, 244
 burials, 244
 metalwork, 267
 stone tools, 266
- Tli, 377, 398, 429, 434, 442, 445, 446
 axes, 441
 burial types, 430
 cemetery, 435–36
 chronology, 436
- Tqisbolo Gora, 335–36, 344, 363
 pottery, 352, 410
- Treligorebi
 housing, 419
 mortuary practice, 418
 grave goods, 418
- Trialeti, 311, 325
- Trialeti Petroglyphs, 80
- Tsaghkahovit Plain, 385
 patterns of distribution, 409
- Tsikhiagora, 231, 233–35, 309, 324
 evidence of ritual, 250
 pottery, 257
- Tsitelgori
 figurines, 401
 mortuary practice, 391
- Tsnori, 313
 barrows, 318–20
 wagons, 362
- Udabno
 pottery, 409–10
- Ukhtasar, 80–81
- Urvan, 154
- Uvarov, Aleksei, 7
- Uvarova, Praskovya Sergeyevna, 5, 7
- Uzerlik Tepe, 333, 369
- Velikent, 240–41
- Veri
 mortuary practice, 420
- Verkhnaia Rutkha
 burial types, 431
- Veselogo, 137, 142
- Veselovskii, Nikolai Ivanovich, 143
- Virchow, Rudolf, 6, 7
- viticulture, 125, 332
- Vorontsov, 137
- wagons and carts, 357–65
- western Georgia
 and Kura-Araxes culture, 219
 dolmens, 281–97
 metallurgy, 379
 relationship between Colchis and Koban culture, 424–25
- Yanik Tepe, 218, 223, 235, 236
- Yerevan 1, 57
- Yeritsov, Alexander D., 5
- Zeiani, 311
 wagons, 362
- Zhinvali, 329
- Zhukov, Boris Sergeyevich, 8
- Zurtaketi, 338–39

